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The Relationship Between Distributive Leadership, School Culture, and Teacher Self-Efficacy at the Middle School Level

Anthony L. DeMarco
anthony.demarco1@student.shu.edu

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By
Anthony L. DeMarco

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Mentor:
Dr. Daniel Gutmore _____

Committee Member:
Dr. Martin Finkelstein _____

Committee Member:
Dr. Dennis Copeland _____

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ABSTRACT

Recent and established research continues to demonstrate the need for school leaders to adapt their leadership practices to reflect the increasing demands associated with their role. This is particularly true for principals of large middle schools. Through the implementation of a distributive leadership framework, a principal can share responsibilities with qualified staff while promoting an institution-wide culture of trust that empowers teachers.

The purpose of this correlational, quantitative research study was to examine the extent to which relationships exist between distributed leadership, school culture, and the self-efficacy of teachers within public middle schools in central New Jersey. This study was informed by Spillane's and Elmore's theoretical frameworks concerning distributed leadership, Bolman and Deal's framework concerning school culture, and Bandura's framework for self-efficacy. This study's sample was 162 certified middle school teachers from five middle schools in central New Jersey. Each participating teacher completed a 73 question survey that gathered data on distributed leadership practices within their school, their school culture, and their view of their own self-efficacy. This quantitative data was collected utilizing the following three survey instruments: the Distributive Leadership Inventory (DLI), the School Culture Survey (SCS), and the Teacher Self-Efficacy Scale (TSES). Basic demographic information was also collected from the respondents.

This study identified significant relationships between distributed leadership, school culture, and teacher self-efficacy. These results indicate the need for school leadership to adopt a holistic framework for leading large complex organizations such as middle schools. Within the

current educational environment, it is essential for principals to understand and recognize the need for both formal and informal leaders within a school. Research has shown that successful school leaders create structures that encourage these formal and informal leaders to work collaboratively and build upon each other's contributions to best practice in leadership and instruction. The implications of these findings, limitations of the study, and a suggested direction for future research on the relationships between distributive leadership, school culture, and teacher self-efficacy are also discussed.

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Finally, and most importantly, thanks to God for the blessing of being able to pursue my doctoral studies. I pray that I use what I have learned to engage in work that honors You.

DEDICATION

To my wife, Lisa, for your love, support, patience, and belief in me.

To my children, Leo and Angelina, always know that learning is a life-long endeavor. Pursue the things you are most passionate about.

To my parents, Leonard and Carolyn, thank you for your love and always providing me with opportunities to pursue my dreams and passions.

In memory of both of my grandfathers:
To Anthony DeMarco, who earned a full scholarship to Albany College but was unable to attend due to the Great Depression. He always wanted to be a history teacher.
To Warren Wagner, a farmer who had a formal education up to eighth grade but never stopped learning and innovating to become highly successful in agriculture.
Today I stand on both of your shoulders and on what you have provided.

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Introduction

Statement of the Problem

In many schools in the United States of America, the authoritarian model for leadership is used to govern learning institutions (Nystrand, 2009). In an authoritarian model, there are specific boundaries that dictate job duties, the role of leadership, and how various stakeholders communicate with each other (Nystrand, 2009). Research has shown that this top-down style of leadership is not conducive to the needs of 21st-century middle schools, especially regarding how this style pertains to the role of the principal as a school leader (OECD, 2009). Increased accountability measures have placed pressure on middle school principals, resulting in leadership structures that are in direct conflict with best practice. Although an authoritative, top-down structure may seem like the path of least resistance to principals, the impact of such a structure has the potential to create an environment where school leaders become overwhelmed by all-consuming tasks and distracted from their professional responsibilities (Beisser, Peters and Thacker, 2014).

Chance, Cummins, and Wood (1996) assert that the school principal has a tremendous impact on the establishment of the school-work culture. It is the responsibility of the principal to develop an understanding of the characteristics that define the culture of their school. "A positive and progressive school culture propagates morale, staff performance and student enrichment" (McKinney, Labat, and Labat, 2015, p. 155). Fullan (2014) suggests that principals should assume the role of mediators by creating motivating conditions that encourage teachers to learn and optimize their practice. The desire to establish what Chance, Cummins, and Wood (1996) described as an effective school-work culture implies and necessitates a system for continuous

improvement on the part of the school and its members. "Epstein *et al.* (2011) conclude with the results of their study the suggestion that shared school endeavors, evaluation of student outcome data and shared collaborative leadership in a school will promote an academic and social equity for improved school culture" (McKinney et al., 2015, p. 154). Although a model of shared leadership is consistent with the establishment of a positive school culture, the implementation of this model requires a significant initial investment of time and resources. Unfortunately, society is changing much more quickly than many educators would prefer and outside political pressures drive school leaders to focus on short-term goals, often tied exclusively to data from standardized assessments, rather than investing in establishing a positive school culture.

There is evidence to suggest that middle school teachers feel less efficacious than elementary or high school teachers (Eccles, Wigfield, Midgley, Reuman, Iver, and Feldlaufer, 1993; Midgley, Anderman, and Hicks, 1995). Albert Bandura (1998) defined perceived self-efficacy "as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives." "Self-efficacy beliefs determine how people feel, think, motivate themselves and behave" (Bandura, 1998). Schwerdtfeger, Konermann, and Schonhofen's 2008 study involving German teachers found teacher self-efficacy to have a positive influence on teachers' attitudes and behavior toward their students as well as observable classroom practices. "Moreover, greater self-efficacy has been found to positively affect teachers' psychological health with respect to job satisfaction and burnout, as well as better physical health as evidenced by physiological indicators of stress" (Wang, Hall, and Rahimi, 2015, p. 122). Bandura (2000) asserts that people are partly the products of their environments. By transforming the culture of schools, building principals have the power to create an environment in which teachers are empowered to transform their circumstances and be

producers of environments that they believe can positively influence students.

Robinson (2008) argues that distributive leadership allows for greater expertise to be made available to those who possess the relevant expertise for carrying out the wide range of educational tasks now demanded of schools. The adoption of a distributive approach to leadership "is not only more suited to building higher order competencies and capacities among teachers and students alike, but it also enhances work-life balance by ensuring the burdens of leadership do not rest on one set of shoulders" (Hargreaves, Halasz, and Pont, 2008, p.72). General Motors CEO Mary Barra states that "if you let people own policies themselves– especially at the first level of supervision–it helps develop them" (Fessler, 2018). As CEO of General Motors, Barra replaced the company's 10-page dress code to two words: "dress appropriately." Barra's policy decision was driven by her thought that if her managers could not handle a simple policy such as "dress appropriately," what other decisions might they struggle with? Barra states that people will live down to overly prescriptive policies and procedures (Fessler, 2018).

Principals can no longer lead instructional reform alone (Wilhelm, 2013). "The greatest power that principals have in schools is that they can control the narrative of the school" (Donohoo, Hattie, and Eells, 2018, p. 44). Similar to the situation with General Motors and CEO Mary Barra, if a middle school principal focuses their energy on the narrative that the work of school concerns simply adhering to compliance-based procedures, staff will focus on and value maintaining those procedures (Donohoo et al. 2018). If the principal utilizes their time and energy on empowering teachers to set high expectations and promote what it means for students to be "good learners," both teachers and students will think about learning in a different, more efficacious way (Donohoo et al. 2018). "When leaders ensure that dependable, high trust,

collaborative structures are in place, teachers learn from and with one another and build common understandings" (Donohoo, Hattie, and Eells, 2018, p. 43).

Through the implementation of a distributive leadership framework, a principal can share responsibilities with qualified staff while promoting a building-wide culture of trust that empowers teachers. Spillane and Sherer (2004) argue that a distributed perspective on leadership means more than acknowledging that multiple individuals lead. "A distributive perspective presses us to consider the enactment of leadership tasks as potentially stretched over the practice of two or more leaders, followers, and their situation" (Spillane and Sherer, 2004, p. 6). The concept of "stretching" leadership over different individuals in the organization is what moves the distributed leadership framework beyond the model of the single charismatic leader who transforms an organization (Angelle, 2010).

"With distributed leadership, decisions about who leads and who follows are dictated by the task or problem situation, not necessarily by where one sits in the hierarchy" (Copland, 2003, p. 378). This leadership framework is a challenge for leaders who have experience only in primarily top-down structures. Distributed leadership will challenge school leaders to relinquish some of their control over the empowerment of others. Bennett, Wise, and Woods (2003) found that conceptions of distributed leadership involve recognizing expertise, rather than formal position, as the basis of leadership authority in groups. Principals in schools where shared leadership has taken hold appear to exert less role-based authority, opting instead to engage in framing questions and problems and providing space and support for inquiry to occur (Copland, 2003). There is a definite need for research that examines the relationship between the distributive leadership framework, school culture, and teacher self-efficacy at the middle school level.

Purpose of the Study

The task of leading today's schools has become so multifaceted and complex that one individual cannot be expected to accomplish the task alone (Grenda and Hackmann, 2013). Spillane (2006) asserts that the critical issue is not that leadership is distributed, but rather how it is distributed. To study leadership practice, one must examine the interplay between leaders, followers, and the elements of the situation (Grenda and Hackmann, 2013). Within the distributive leadership framework, focus is placed on the situation. Individuals within the organization are respected and valued for their specific strengths and expertise. When applying the distributed leadership framework, teachers are empowered to engage in leadership roles and transfer their knowledge and skills throughout the organization (Grenda and Hackmann, 2013). The distributive leadership framework promotes conditions consistent with Marzano's (2003) conclusion that it is teachers who have the greatest impact on student achievement.

The purpose of this study was to replicate Davis' (2014) study to determine the extent to which a relationship exists between distributed leadership, school culture, and the self-efficacy of teachers in public middle schools in central New Jersey. The variable (V_1) *distributed leadership* is defined as leadership that is shared amongst members within the school (Elmore, 2000; Spillane, 2006). The variable (V_2) *school culture* is defined as the culture that exists within the school–including staff, students, community, and parents–which is anticipated to be conducive to student learning and teacher/staff support (Bolman and Deal, 1994, 2013). The variable (V_3) *teacher self-efficacy* is defined as teachers' perceptions and beliefs about themselves (Bandura, 1997).

Although Davis' study demonstrated a positive correlation between distributed leadership and both school culture and teacher self-efficacy–as well as a positive correlation between school

culture and teacher self-efficacy–the study was limited to K-5 elementary schools in Pinal County, Arizona. There is a need to continue this research to include middle schools that house Grades 6–8 in different geographical regions of the United States to determine if there are similar findings. The purpose of Davis' research was to contribute to the literature regarding distributive leadership that goes beyond the limited focus of school performance and student achievement to include school culture and teacher self-efficacy. This study adds to the empirical research on distributed leadership by advancing the understanding of the relationship that exists between distributive leadership, school culture, and teacher self-efficacy at the middle school level. Further, the findings of this study contribute to the literature on school leadership and its impact on school culture and teacher self-efficacy. If a positive correlation between distributed leadership, school culture, and teacher self-efficacy can be established at the middle school level, further research could be conducted and action could be taken to promote a shift away from thinking that an authoritative, top-down leadership structure is what is required for principals to be successful in the current educational environment.

Five middle schools within Middlesex and Mercer Counties in New Jersey were identified for the study. At the time of this study, each of these suburban middle schools had a diverse student population exceeding 1,000 students. The participating schools each possessed features that are commonly found in middle schools, such as common planning time, flexible scheduling, team autonomy, and an overall structure that encourages collaboration and growth among teachers (Valentine, Clark, Hackmann, and Petzko, 2002).

The participants in this study were teachers of students in Grades 6–8 from each of these five schools. The participants completed 68 questions concerning distributed leadership within their school, school culture, and their self-efficacy. The study collected quantitative data utilizing

the following three instruments, the Distributed Leadership Inventory (DLI), the School Culture Survey (SCS), and the Teacher Self-Efficacy Scale (TSES).

Research Questions

Question 1. What is the relationship between distributive leadership and the self-efficacy of teachers in suburban public middle schools in central New Jersey, as measured by the Distributed Leadership Inventory (DLI) and Teacher Self- Efficacy Scale (TSES)?

Question 2. What is the relationship between distributed leadership and school culture in suburban public middle schools in central New Jersey, as measured by the Distributed Leadership Inventory (DLI) and School Culture Survey (SCS)?

Question 3. What is the relationship between school culture and the self-efficacy of teachers in suburban public middle schools in central New Jersey, as measured by the School Culture Survey (SCS) and Teacher Self-Efficacy Scale (TSES)?

Significance of the Study

Davis, Eickelmann, and Zaka (2013) assert that "visionary, distributive leaders have a great impact through the influence of teachers, implying that educational leaders who allow autonomy through distributive leadership provide more opportunity for change to occur in the culture of the educational environment" (Lemley, Schumacher, and Vesey, 2014, p. 117). The distributive model promotes collaboration and a team centered approach in middle schools. "Educational leaders, by promoting collaboration and team-centered methods, can demonstrate the very skills necessary for cultural transformation to a 21st-century learning environment" (Lemley et al., 2014). The significance of this study lies in its potential to contribute to the examination of distributive leadership on the culture of public middle schools.

Today, principals are called to be leaders, mentors, teachers, administrators, guides,

financiers, architects, visionaries, role models, surrogate parents, and friends and bear an inordinate responsibility for the success of a school (Beisser et al., 2014). Furthermore, they are expected to become experts in school law, human resources, curriculum planning, supervision of instruction, public and community relations, student and staff interactions, and school facilities management (Fullan, 1991). Without a proper leadership framework in place, a principal can easily feel paralyzed by these many pressures and responsibilities. As opposed to transactional leadership–which focuses on compliance–and instructional leadership–heavily emphasizing teaching and learning–distributive leadership focuses on the principal's ability to cultivate a collaborative culture where specific leadership roles are defined between various staff members. "Regardless of whether or not a principal has a natural inclination to lead using a collaborative or distributive style, such methods have become de facto survival skills in today's education settings" (Beisser et al., 2014, p. 252). Despite the need for such an approach, the lack of training in collaborative leadership combined with the political pressures associated with high stakes performance objectives mean that many school leaders do not make it a priority to invest time and resources in a distributive model. The results of this study should contribute significantly to the growing body of literature regarding distributive leadership practices as it pertains to the leadership of a middle school principal.

Existing research suggests that teachers who believe they cannot control teaching related stress have a higher chance of experiencing burnout when compared with those who can control these stressors (Wang et al., 2015). Bandura (1998) defines perceived self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives." There is little practical research on the impact of distributive leadership frameworks on teacher self-efficacy. The analysis of the data from this

study should fill this void and determine whether the distributive leadership framework is a practical option for a middle school principal insofar as it relates to teacher self-efficacy.

The purpose of this research is to determine if there is a statistically significant relationship between distributive leadership, school culture and teacher self-efficacy at the middle school level. If the research finds there to be statistically significant relationships between the variables, this research may provide examples of best practices for school leaders who recognize the need to improve their school culture, foster a greater collaborative learning community, or empower staff members who hold specific expertise. The findings of this study may also contribute to the role that the distributive leadership framework has in training programs for new and aspiring school leaders. The practical applications of the distributive leadership framework are a valuable asset to both new principals and those veteran principals who are new to their surroundings.

Limitations and Delimitations

The study is limited by its geographic areas and the data collection methods used by the researcher. The study was limited to suburban middle schools in central New Jersey that, based on the 2000 census, fell within the F–I District Factor Groups. The study was also limited by the number of teachers who chose to respond to the survey and the truthfulness of their responses.

The survey responses are limited to one data point during the 2017–2018 school year. Therefore, the research is unable to take into account effects that occurred before the survey or after the obtaining of survey responses. The research is also limited by the reliability and validity of the Distributed Leadership Inventory (DLI), School Culture Survey (SCS), and Teacher Self-Efficacy Scale (TSES). Teachers who participated in the survey were self-reporting, and how

they interpreted the survey questions impacted their responses regarding the relationship between distributive leadership, school culture, and teacher self-efficacy.

Definition of Terms

Distributed Leadership. Distributed leadership is a framework in which opportunities for shared leadership and collaboration are common. Trust in professionals within the organization is required, and specific structures guiding leadership practices and collaboration must be well-defined. With distributed leadership, decisions about who leads and who follows are dictated by the task or problem situation, rather than by where one sits in the hierarchy (Copland, 2003). The concept of "stretching" leadership over different individuals in the organization is what moves the distributed leadership framework beyond the model of the single charismatic leader who transforms an organization (Angelle, 2010).

Distributed Leadership Inventory. Developed by Geert Devos, the Distributed Leadership Inventory (DLI) was developed and evaluated to investigate leadership team characteristics and the distribution of leadership team functions between formally designed leadership positions in large secondary schools (Hulpia, Devos, and Rosseel, 2009). The DLI supports the notion that leading schools function under the leadership of multiple individuals who are positioned to function at a high level based on their knowledge and expertise.

General Self-Efficacy Scale. Developed by Matthias Jerusalem and Ralf Schwarzer in 1981, the General Self-Efficacy Scale is a 10-item psychometric scale that is designed to assess the optimistic self-beliefs used to cope with a variety of challenging demands in life (Schwarzer, 2012). This scale focuses specifically on personal agency, which is defined as the belief that one's actions are responsible for successful outcomes.

Middle School. A school consisting of students in Grades 6–8. Students in these schools have completed an elementary or primary school program but are not considered high school students.

School Culture. According to Fullan (2016), school culture can be defined as the guiding beliefs and values evident in the way a school operates.

School Culture Survey. The School Culture Survey was developed by Gruenert and Valentine at the Middle-Level Leadership Center. "The School Culture Survey provides insight about the shared values/beliefs, the patterns of behavior, and the relationships in the school" (Gruenert and Valentine, 2006). The survey consists of six factors, each of which measures a unique aspect of a school's collaborative culture.

Self-Efficacy. Albert Bandura (1997) defined perceived self-efficacy as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves, and behave (Bandura, 1997). In short, it is how someone feels about themselves and their abilities.

Chapter 2

Review of the Literature

Introduction

Several decades of school reform have "stuffed the principal's job jar to overflowing with new chores and have undermined comfortable old assumptions about the nature of school leadership" (Lashway, 2003, p. 3). Today, successful school leaders are open-minded and prepared to learn from others when faced with challenging situations (Liethwood, Harris, and Hopkins, 2008). A review of the literature indicates a clear connection between distributive leadership practices, teacher self-efficacy, and school culture. Two common themes emerged from the review of the literature. First, collaborative processes shared among educators (in contrast to an authoritarian approach) elevate teachers to thoughtful, responsible, growing professionals. And second, growth and development are most likely to occur alongside open, mutual, and critical dialogue between professionals (Blase and Blase, 1999). The literature also reveals that structures and processes can influence a teacher's perceptions of their ability to make a difference in students' lives (Reames and Spencer, 1998). The efficacy of both school leaders and teachers arises less from direction and inspiration than from the aligned and supportive nature of the culture of their school (Leithwood and Jantzi, 2008).

The purpose of this research study was to examine to what extent, if any, a relationship exists between distributed leadership, school culture, and teacher self-efficacy within public middle schools in Central New Jersey. This chapter begins by outlining the theoretical frameworks for the research based on Spillane's (2006) and Elmore's (2000) theories of distributive leadership, Bandura's (1997) theory of self-efficacy, and Bolman and Deal's (2003) theory of school culture. From there, the chapter outlines relevant literature regarding distributive

leadership, self-efficacy, and school culture. Within the reviews of these frameworks, the researcher summarizes several studies and argues for how the results of these studies should impact upon the role of the principal within the school community.

Theoretical Foundations for Research

There are many theoretical perspectives regarding distributed leadership, school culture, and teacher self-efficacy. The theoretical framework for this study was grounded in the theories of distributed leadership developed by Spillane (2006) and Elmore (2000); the theory of self-efficacy developed by Bandura (1997); and the theory of school culture developed by Bolman and Deal (2003). These frameworks were chosen for this study based on their prominence in their respective subject areas.

Spillane's theoretical framework. Spillane's (2006) distributive leadership framework moves beyond what he refers to as a *Leader-Plus Aspect* and what is commonly referred to as shared leadership. Spillane (2006) asserts that what is paramount in the distributive perspective is the collective interactions between leaders, followers, and their situation. Within Spillane's (2006) framework, leadership does not reside solely in the principal's office but instead within multiple leaders throughout the school who assume formal and informal roles and responsibility for leadership activities.

According to Spillane (2006), distributed leadership presses us to examine who does what in the work of leadership. Leadership is stretched over individuals who have responsibilities for leadership routines. Therefore, the critical issue is not whether leadership is distributed but how leadership is distributed (Spillane, 2006). Within Spillane's (2006) framework, the significance of the school principal is recognized, but it is not automatically assumed that the title of the position and the concept of leadership are one and the same. Within

the distributive leadership framework, the principal is not always the authority figure at the center. The followers are a defining element of leadership activity, shaping it from the inside out rather than the outside in (Spillane, 2006).

Spillane's (2006) distributive leadership framework "offers an alternative way of thinking about leadership in schools by foregoing leadership practice and by suggesting that leadership practice is constructed in the interactions between leaders, followers, and their situations" (p. 25). Spillane (2006) points out that distributive leadership is not a prescription for how to practice school leadership. Instead, distributed leadership offers a framework for thinking about leadership differently.

Elmore's theoretical framework. Another commonly recognized distributive leadership framework was developed by Richard Elmore (2000). Elmore (2000) asserts that school improvement cannot be controlled, only guided through the provision of direction. Elmore (2000) explains that the word "control" implies that the controller knows exactly what the followers should do, while "guidance" and "direction" imply some degree of shared expertise among people at different knowledge levels.

Elmore (2000) describes his idea of distributed leadership as being not very complicated. Elmore's (2000) framework is based on the assertion that "in any organized system, people typically specialize, or develop particular competencies, that are related to their predispositions, interests, aptitudes, prior knowledge, skills, and specialized roles" (p. 14). There is no way to perform the complex tasks associated with an enterprise as knowledge-intensive as school leadership without widely distributing responsibility for leadership (Elmore, 2000).

Bolman and Deal's theory of school culture. Bolman and Deal (2003) define culture as both a process and a product. Applying this theory to a school culture context, the product

embodies wisdom accumulated from shared experiences. As a process, it is renewed and recreated as new members of staff learn the established ways from veteran members. Newcomers eventually become veterans, and the process continues to be handed down. Bolman and Deal utilize Schein's (1992) formal definition of culture: "a pattern of shared basic assumptions that a group learned as it solved its problems of external adaptation and integration, that has worked well enough to be considered valid and therefore to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (p. 12). School leaders, both formal and informal, help shape the nature of school culture (Leithwood, 2005). Over time, the leadership framework a principal chooses to utilize will shape the school, positively or negatively. "Without high-quality leadership, high-quality schools cannot exist" (Valentine, 2004, p. 112). An understanding of the concept of school culture is essential if principals are to influence both culture and achievement (Valentine, 2006). School leadership and culture are intertwined and their relationship to self-efficacy, if one exists, must be examined (Davis, 2014).

Bandura's theory of self-efficacy. According to Bandura (1997), people try to exercise control over the events that affect their lives. If a person believes they have control over their action and that their actions will be effective, they have a stronger incentive to act. Bandura (1997) identifies the following different ways that perceived self-efficacy, or the belief in one's capabilities, regulate human functioning: (1) Cognitive: Individuals with high self-efficacy are more likely to challenge themselves and are committed to their challenges. These individuals focus on the potential successful outcomes rather than what can potentially go wrong. (2) Motivational: People motivate themselves by forming beliefs about what they can do, anticipating likely outcomes, setting goals, and planning courses of action. Their motivation will be stronger if they believe they can attain their goals and adjust them based on their progress.

Self-efficacy beliefs determine the goals people set for themselves, how much effort they expend, how long they persevere, and how resilient they are in the face of failures and setbacks. (3) Mood or Affect: How much stress or depression people experience in threatening or difficult situations depends largely on how well they think they can cope (Bandura, 1997).

Bandura's concludes that there is a connection between low self-efficacy and depression: "A person who feels unable to prevent recurrent depressive thoughts or dejected rumination is more likely to have repeated episodes of depression" (Bandura, 1997, p. 4). Low self-efficacy leads to hopelessness and creates a downward cycle towards lower moods. Individuals with low self-efficacy struggle to establish and maintain the positive social relationships that would help them navigate adverse situations. By contrast, people with high self-efficacy attract support from others, which reinforces their ability to cope. These individuals welcome the opportunity for challenges and see them as opportunities for mastering new learning rather than something to be avoided. They are passionate about what they do and set goals that they are committed to. Setbacks can be overcome and are viewed as opportunities for growth and new learning. Bandura (1997) asserts that high self-efficacy sustains motivation, reduces stress, and lowers vulnerability to depression.

Review of Selected Literature

Distributive leadership. Spillane (2006) asserts that distributive leadership offers scholars a conceptual basis for studying leadership. Based on Spillane's (2006) understanding, distributive leadership serves as a framework for framing investigations into leadership practice. The emphasis is not placed on whether leadership is distributed but rather on how it is distributed. "The distributed perspective offers a particular way of thinking about leadership practice, arguing that practice gets defined in the interactions of leaders, followers, and their

situation" (Spillane, 2006, p. 89). This differs from other conceptual leadership frameworks, which focus on the actions as well as the knowledge/skills of the practitioner. Spillane identifies three elements of distributive leadership: (1) leadership practice, (2) interactions between leaders, followers, and their situation, and (3) the situation. Spillane emphasizes that distributive leadership is about practice and not about roles and positions. "Leadership practice is about interactions, not just the actions of heroes" (Spillane, 2006, p.4).

Schools are large organizations with complex social systems. There is a need for communication and learning to be distributed across these systems (Harris, 2008). Spillane (2006) advocates for school leadership in the U.S. that shifts according to need, leadership that rests with those with the expert authority for a designated task, and collaborative teams with fluid membership. Leadership can be distributed throughout extended grouping and networks, both formally and informally. This could manifest itself within subject departments, committees, interdisciplinary teams, professional learning committees (PLCs), and various school improvement committees. These collaborative teams can be formed across departments and subject area disciplines, and some teams should include parents and students. Harris (2008), argues that when stakeholders work together to solve particular sets of pedagogical problems, they will occupy a leadership "space" within the school and will be engaging in leadership practice. Within the distributive framework, the principal assumes a key role as the architect of organizational leadership, rather than as the "chief doer," the role traditionally associated with this position of leadership (Lashway, 2003).

Achieving a distributive leadership model is far from easy, as many in leadership positions find it difficult to relinquish power and control to others (Harris, 2003). "Acknowledging that leadership practice extends beyond the school principal in no way

undermines the vital role of the school principal in school leadership but instead shows that leadership is often a collective rather than individualistic endeavor" (Spillane, 2006, p.6). Within a distributive model, school leaders demonstrate an understanding that power is an unlimited resource and that their power is not diminished when the power and influence of others in the school increases (Liethwood et al., 2008). Distributive leadership does not require principals to abdicate large amounts of responsibility. Instead, distributive leadership encourages principals to view teachers as colleagues and professional equals intentionally and steadily engaged in the work of change (Copland, 2003). A distributive perspective makes it possible for the work of leadership to be made manageable. Those individuals who try to single-handedly lead complex organizations such as schools set themselves up for failure (Spillane, 2006).

Bolden (2011) explains that distributive leadership is not a replacement for other forms or practices of leadership but rather provides the space to integrate various approaches in a systematic manner. Elmore's (2000) system-level perspective is rooted in the principles of distributed expertise, mutual dependence, reciprocity of accountability and capability, and the centrality of instructional practice. "Elmore pushes the field to relocate the authority and responsibility for improving teaching and learning, separating it from the sole control of those 'up the chain' of the administrative hierarchy, and embedding that authority and responsibility in the daily work of all those connected to the enterprise of schooling" (Copland, 2003, p.377). Mayrowetz (2008) credits Elmore (2003) and other researchers for arguing eloquently that distributed leadership can lead to improved effectiveness. The argument made by researchers like Elmore is that the work of the principal or school leader has become so complex that it is simply not practical for all power and expertise to rest with one person. It is simply more efficient to ask non-administrators to engage in leadership activities if they have the necessary

expertise (Mayrowetz, 2008). Elmore (2003) claims that since "instructional improvement requires that people with multiple sources of expertise work in concert around a common problem; this distributed expertise leads to distributed leadership" (p. 10).

Distributed leadership has been utilized to build capacity in teachers. When utilized in this way, distributed leadership is defined as "a form of collective leadership in which teachers develop expertise by working together" and "equates with maximizing the human capacity within the organization" (Harris, 2004, p. 14). Schools that implement this perspective of distributive leadership often utilize professional learning communities. Capacity building is centered on inquiry, and "schools deemed to be at the advanced level in their engagement with the inquiry process have powerful professional learning communities actively and continually seeking school and instructional improvement" (Mayrowetz, 2008, p. 431). Copland (2003) further asserts that there is empirical evidence surfacing in support of the notion that, within successful school communities, the capacity to lead is not principal-centric by necessity, but rather embedded in various organizational contexts. The utilization of distributed leadership to increase teacher capacity shows the most promise for encouraging school-wide improvement (Mayrowetz, 2008).

Harris (2008) describes distributed leadership as possessing "chameleon-like" qualities. Within the existing literature, the idea of distributed leadership can overlap and be synonymous with other leadership concepts that describe any form of devolved, shared, collective, delegated, or dispersed leadership practice in schools (Harris, 2008). Not all of these descriptions are accurate. Unlike some of the concepts mentioned earlier, within the distributive framework, all members of the organization can assume leadership responsibilities on their own initiative (Spillane 2006). This should not promote the misconception that distributed leadership means

everyone leads (Harris, 2008). Spillane (2006) warns that distributive leadership is not a prescription for better leadership but a description of how leadership already is. "A distributive perspective might be a means to prescription, but it is not a prescription itself" (Spillane, 2006, p.10). Distributive leadership provides a frame that helps school leaders and others interpret and reflect on practice as a basis for rethinking and revising it (Spillane, 2006). "From a distributed perspective, the challenge is to understand how practice takes shape in the interactions of a group of leaders, recognizing that whether they seek familiar, different, or even conflicting goals is only one dimension of any such analysis" (Spillane, 2006, p.70).

Distributed and centralized leadership can be viewed as end points on a continuum with a low distribution of leadership tending to be centralized (Pearce, Conger, and Locke, 2008). Defining leadership as a set of organizational functions is what Spillane (2006) refers to as the Leader-Plus Aspect. This is the minimalist view of distributive leadership (Feng, Hao, Iles, and Brown, 2017). Gronn (2002) states that distributive leadership can be dispersed and numerical or conjoint and concertive. The numerical view suggests that anyone can be a leader at any time due to the situation and their specific expertise. The work of leadership is not privileged, and there is no presumption that one person carries weight over another. Gronn's (2002) second view–concertive action–takes a more holistic approach that concentrates on developing collective leadership activities and processes (Currie and Lockett, 2011). This aspect of distributed leadership is new, and the activities that constitute leadership must be identified (Mayrowetz, 2008). In this approach, leadership will reveal itself in three forms: spontaneous collaboration, intuitive working conditions, and institutionalized practices (Feng et al., 2017). Feng et al. (2017) assert that viewing leadership through a distributive frame creates clear

boundaries through these dimensions. Additionally, the recognition of distributive leadership as a multidimensional perspective may improve its applicability (Feng et al., 2017).

Emergent recognition of the boundaries of what principals can accomplish in the practical world of schools has led scholars to evince greater interest in conceptualizations of distributed leadership (Gronn, 2002; Spillane, 2006). Specifically, there has been a recent emphasis placed on using instructional leadership to increase the capacity of teachers (Leithwood, Harris, and Hopkins, 2008). The study by Leithwood et al. (2008) suggests that despite efforts, educational leaders make only modest direct contributions to the instructional capacity of teachers. In this same review, Leithwood et al. assert that school leaders have a strong and positive influence on teacher motivations, commitments, and beliefs about the supportiveness of their working conditions (Leithwood et al., 2008). Research teams from the University of Minnesota and the University of Toronto have replicated these results. A recent four-year mixed-methods national study "of variations in the work, lives and effectiveness of teachers in English schools confirms the importance of leadership alongside other mediating influences to teachers' commitment, resilience and effectiveness, and the key role of emotional understanding in successful leadership" (Leithwood et al., 2008, p. 11). It is also worth noting that when Liethwood et al. (2008) compared studies that measured the impact of leadership provided by one person against the concept of total leadership (leadership provided by many possible sources), total leadership accounted for a much higher proportion of explained variation (two to three times higher) than is typically reported in studies involving one school leader.

Research by Spillane et al. (2001, 2004), which focused on 13 elementary schools in Chicago, found that the task of instructional improvement engaged multiple leaders and that understanding the interplay between different leaders is crucial to understanding leadership

practice. Their study concluded that the school rather than the individual leader is the most appropriate unit for thinking about the development of leadership expertise. It also concluded that intervening to improve school leadership may not be most optimally achieved by focusing on the individual, formal leader and that focusing on such leaders may not offer the best use of resources.

Although Heck and Hallinger's (2009) study did not measure the contribution of principal leadership to building academic capacity, the stability of principal leadership demonstrated a small but statistically significant positive effect on teachers' perceptions of changes in distributive leadership. Distributed leadership can promote organizational capability and performance (Gronn, 2002), and "many studies are beginning to support the role of distributive leadership in effective team performance" (Feng et al., 2017, p. 287). Recent studies by Bolden (2011), Fitzgerald et al. (2013), and Fausing et al. (2015) indicate a positive relationship between distributive leadership and significant aspects of organization performance (Feng et al., 2017). Carmeli and Schaubroeck's (2006) research has demonstrated that a distributed approach in a top management team was related to positive organizational outcomes. Mehra, Smith, Dixon, and Robertson (2006), in their research, determined that distributed leadership was significantly correlated with financial performance (higher sales). Within the specific context of education and school leadership, a distributive perspective plays a key role in influencing both school climate and teacher capacities and motivations (Feng et al., 2017).

Harris (2008), a proponent of distributive leadership, asserts that without stable, consistent leadership, distributive leadership is very fragile and does not reduce the demand for formal leadership positions. A common criticism of distributive leadership is that leadership can be too fragmented, resulting in poor communication between leaders and limited effectiveness.

Hargreaves and Fink (2006) point out that "distributed patterns of leadership do not always serve the greater good" (p. 102). "Distributed leadership is sometimes bad leadership" (Harris, 2008, p. 177). Mayrowetz (2008) also cites the empirical research on distributive leadership with a less rosy outlook. Heller and Firestone (1995) and Mayrowetz and Weinstein (1999) found, in their research, that the redundancy in leadership function does not necessarily lead to school improvement. Leithwood and Jantzi's (1998) study concluded that schools that implement higher levels of distributed leadership are associated with lower levels of student engagement. Kellerman (2004) asserts that not all who are engaged in leadership are good leaders and Timperley (2005) states that distributed leadership could result in the distribution of incompetence. A close look at the Mehra et al. (2006) study reveals a failure to support a linear relationship between distributive leadership and team performance, despite the positive sales performance of the team.

Bolden (2011) reaffirms Harris and Spillane's (2008) assertion that distributed leadership needs to "connect in a meaningful way with the experiences and aspirations of leadership practitioners" (p. 264) to be successful. Sheppard, Hurley, and Dibbon (2010) define distributed leadership as a shared leadership responsibility for both formal leaders (school administrators) and teacher leaders. In their research, they assert that the best model of distributive leadership is one where formal leadership behaviors are transformational and inclusive. These leadership behaviors "have a significant positive influence upon the level of teachers' active participation in school leadership as they collaborate with their colleagues and engage in both shared decision-making and the development of a shared vision for their school" (Sheppard et al., 2010, p. 9). Their model reveals an approach to distributive leadership that accounts for a large amount of variance in teachers' morale and enthusiasm for their work (Sheppard et al., 2010).

A study by Ingersoll, Sirinides, and Dougherty (2017) concluded that students who attend schools where teachers have a leadership role in decision making perform significantly better on state tests. Schools with the highest levels of instructional and teacher leadership outperformed those at the lowest levels by at least 10 percentage points after controlling for poverty, school size, and location. Although the study shows correlation and not causation, the results support the views of teacher empowerment advocates (Will, 2017). The data from this study indicates "that teachers' roles in establishing student discipline procedures and school improvement planning are the most strongly related to student achievement" (Ingersoll et al., 2017, p.14). The results of this study revealed that the elements of instructional leadership and areas of teacher leadership that are most strongly related to student achievement are least often implemented in schools (Ingersoll et al., 2017, p.14).

Harris (2008) argues that the evidence for the effectiveness of distributed leadership is encouraging but far from conclusive. Although further investigation is warranted, Sheppard, Hurley, and Dibbon's (2010) research challenges Mayrowetz's (2008) skeptical assertion that the greatest potential of distributive leadership is to build human capacity. If teachers' engagement in school leadership, their increased leadership capacity, and their enhanced morale and enthusiasm for their work have an impact on school performance, it is reasonable to conclude that the approach to distributed leadership put forth by Sheppard et al.'s (2010) research has considerable potential for meaningfully enhancing school success.

When utilizing distributed leadership as a lens with which to look at the activity of leadership, the individual leader of the school must be de-centered but not ignored (Mayrowetz, 2008). This usage of distributed leadership is consistent with Spillane's (2006) approach, but very few empirical studies use this theoretical lens (Mayrowetz, 2008). Mayrowetz (2008) cites

Spillane's (2006) assertion that when distributed leadership is limited to focusing on moving beyond person- or role-based leadership, or criticizing distributed leadership for the perceived ambiguity of where leadership ends and regular work begins (Lakomski, 2005), that the researcher is limiting himself to modest goals. By utilizing distributed leadership to focus on leadership practice and interventions, there is a widening of the target to include the whole school, resulting in leaders being more conscientious of the tools utilized and the specific leadership practiced (Mayrowetz, 2008).

Distributive leadership is not restricted to any particular pattern and cannot always be anticipated or planned for but, rather, emerges within the organization to solve problems or take action (Harris, 2008). Although not restricted to any pattern, the potential of distributed leadership is limited by its restriction to particular contexts and locations (Bolden, 2011). Educational leaders must recognize the inherently political nature of leadership within organizations and imbalances in the distribution of power and influence (Gordon 2010; Woods and Gronn 2009).

Recent literature suggests that distributive leadership has gained popularity as a desired leadership approach in schools. Justifications for this approach to leadership include the promotion of democratic values, shared expertise, and the commitment that arises from participation in decision making (Leithwood and Mascall, 2008). Some have asserted that distributed leadership has the potential to increase on-the-job leadership development, enhance the overall experience of work, provide solutions to organizational challenges, and further reinforce and extend a leader's influence (Harris, 2008). Although this all seems reasonable, Leithwood and Mascall (2008) acknowledge that some literature suggests that the distributive approach can lead to a lack of coordination, hints of anarchy, and unrealistic time demands on

those not in formal administrative roles. Leithwood and Mascall's (2008) study suggests that the truth is somewhere in between these two schools of thought. Their study suggests that within the fairly traditional hierarchy of influence that is commonly associated with school leadership, ways need to be found to build on the expertise of all staff. This is confirmed by Copland's (2003) survey findings, which concluded that whatever the structure, formal leaders played a crucial role in encouraging and modeling nontraditional forms of leadership (Lashway, 2003). Ingersoll et al. (2017) also cite the need for formal leadership. They conclude that without proper leadership in place, delegating autonomy or authority to employees without also having accountability measures in place can foster inefficiencies and irresponsible behavior and lead to low performance. Conversely, "administering organizational accountability without providing commensurate autonomy and authority to employees can foster job dissatisfaction, increase employee turnover, and lead to low performance" (Ingersoll et al., 2017, p. 15).

Distributive leadership summary. Although the distributive leadership frameworks of Spillane (2006) and Elmore (2000) are theoretical, there is a growing body of empirical research on the topic of distributed leadership. This research is based on studies conducted utilizing Spillane's (2006) and Elmore's (2000) frameworks and the associated leadership theories. The practice of distributive leadership has been shown to have a significant impact on organizational performance. Based on the empirical research reviewed, the conclusion can be made that school leadership has a strong influence on teacher motivations, commitment, and their view of working conditions (Leithwood et al., 2008). The research also reveals that the impact of school leadership on building teacher capacity to be modest. Additionally, studies reveal that total leadership has more of an impact than the leadership of one school leader. Spillane's (2001,

2004) research confirms this, and he asserts that a focus on whole school leadership development is more impactful than a focus on developing an individual leader.

The literature reviewed also recognizes empirical research that is critical of distributive leadership. These studies cite concerns including the promotion of poor leadership, redundancy of systems, lower student engagement, and the spreading of incompetence. There is currently limited empirical research on school leadership that decenters the individual school leader (Mayrowetz, 2008). Research has shown that the truth regarding the effectiveness of distributed leadership is somewhere between what is presented by those who promote its theoretical aspirations and those who have found evidence to detract from the theory. Regardless of the structure that is in place, formal leaders play a key role in instituting the accountability measures necessary to promote efficient and responsible organizational behavior (Leithwood and Mascall, 2008; Copeland, 2003; Ingersoll et al., 2017; Lashway, 2003).

Principals can no longer afford to be leaders alone or apart; they must "invite others into leadership roles and actions" and "design (with others) professional development opportunities directed toward state-of-the-art instruction, products, and performance" (Lambert, 2003, p. 51). While one can locate "outposts of excellence" where maverick principals or superintendents have resurrected dying schools or districts through wielding their formal powers, such efforts are recognizable only because they are the exception rather than the rule (Copland, 2003). Distributive leadership can be as simple as one principal encouraging staff to take on leadership responsibilities or as complex as new, district-wide governance systems. "A distributed perspective urges us to take leadership practice as the unit of interest and attend to both teachers as leaders and administrators as leaders simultaneously" (Spillane, 2006, P. 21).

Self-efficacy. According to Bandura's (1977) social cognitive theory, self-efficacy represents one of the most important predictors of human motivation and is defined as "people's beliefs about their capacities to produce designated levels of performance and exercise influence over events that affect their lives" (Bandura, 1998, p. 71). Individuals with a high level of confidence in their capabilities approach difficult tasks as challenges that are to be mastered rather than threats to be avoided. A person with the same knowledge and skills may perform poorly, adequately, or extraordinarily depending on fluctuations in thinking on their self-efficacy (Bandura, 1993). Bandura (1998) further asserts that people with an efficacious outlook are more accomplished at meeting goals, have reduced stress, and have a lower vulnerability to depression.

Mastery experiences, vicarious experiences, social persuasion, and emotional states are listed among the resources of self-efficacy (Wood and Bandura, 1989). "The most effective way of creating a strong sense of efficacy is through mastery experiences" (Bandura, 1998, p. 2). "When defined as beliefs about one's ability to accomplish specific tasks, the construct of self-efficacy bears a strong similarity to one of the three intrinsic needs, namely, the construct need for competence which is defined as mastering work tasks and as perceived competence" (Holzberger, Philipp, and Kunter, 2014, p. 101). Those with a resilient sense of efficacy overcome obstacles through perseverant effort, thereby gaining a sense of competence. Meanwhile, those individuals who are exposed only to experiences that result in quick and easy success are more easily discouraged by failure because they lack a sense of competence (Bandura, 1998).

When applying the social cognitive theory to teachers, the underlying assumption is that a high level of self-efficacy will result in positive behaviors in teachers, while low self-efficacy

will result in negative consequences. The current state of research confirms that self-efficacy beliefs are relevant to teachers' work outcomes and, thus, having positive self-efficacy beliefs is conceptualized in the educational process as an essential teacher characteristic (Holzberger et al., 2014). Tschannen-Moran, Woolfolk-Hoy, and Hoy (1998) specifically defined teachers' self-efficacy as beliefs regarding one's ability to teach, regulate classroom behavior, and motivate students to learn. This is different from teachers' actual competence, because self-efficacy is based on perceived abilities rather than actual performance. "Efficacy influences teachers' persistence when things do not go smoothly and their resilience in the face of setbacks." (Tschannen-Moran et al., 1998, p. 223).

Concerning interactions with students, teachers with higher self-efficacy tend to be more patient, make better use of class time, criticize students less, encourage student autonomy and responsibility, and persist longer when dealing with challenging students (Gibson and Dembo, 1984). Teachers that possess a strong sense of instructional self-efficacy create mastery experiences for students (Bandura, 1993). These teachers support the development of students' intrinsic interests and academic self-directedness (Bandura 1993). Teachers who have a low sense of instructional efficacy favor a custodial orientation relying on extrinsic inducements and negative sanctions to get students to study (Bandura, 1993). Woolfolk, Rosoff, and Hoy's (1990) study involving language teachers found that teachers with higher levels of self-efficacy managed classrooms that were more autonomous and less controlling of student behavior, while teachers who were less self-efficacious were more authoritarian in their classrooms. Allinder's (1995) study involving special education teachers and their students concluded that teachers with high personal efficacy and high teaching efficacy created end of year student goals that were more ambitious and promoted greater growth than their counterparts with low degrees of

efficacy; teachers with high teaching efficacy set goals that were overall more ambitious than those of teachers with low teaching efficacy.

Kurt (2016) contends that the self-efficacy perceptions of teachers should be enhanced to allow them to demonstrate leadership behaviors. Kurt's (2016) study found that strong self-efficacy perceptions positively affect teachers' leadership behaviors with regards to organizational development, professional development, and collaboration with colleagues. The central finding of Coladarci's (1992) study on teacher self-efficacy and teacher commitment to teaching found that personal and general efficacy were the two strongest predictors of teachers' commitment to teaching. Coladarci (1992) stresses that the features of school organization that promote a teacher's sense of efficacy may, in turn, promote that teacher's commitment to the organization and, therefore, to teaching. A more recent study from Singapore found that a negative relationship between perceived organizational politics and teacher commitment is mediated by teachers' sense of identification with the school (Chan, Lau, Nie, Lim, and Hogan, 2008).

While self-efficacy is concerned with the beliefs regarding one's own capacity, collective efficacy is concerned with the beliefs regarding the capacity of the organization as a whole. "In the school context, perceived collective efficacy represents collective judgments about the capability of the school as a whole" (Hoy 2012, p. 83). Collective efficacy is defined by Bandura (1997) as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (p. 477). Teachers have efficacy beliefs not only about themselves but also about the efficacy of the entire faculty. Perceived collective efficacy is the judgment of the teachers regarding whether and how well the faculty as a whole can organize and execute the actions required to produce positive effects on student

achievement (Goddard, Hoy and Woolfolk-Hoy, 2000). Goddard et al. (2000) outlined Bandura's (1986, 1997) four sources from which teachers obtain information with which to develop their collective efficacy:

- *Mastery experience.* This is an important experience. It concerns how schools and teachers specifically experience both success and failures. Both are learning experiences for the organization–success builds collective efficacy and failure can undermine it.
- *Vicarious experience.* It is effective to have teachers hear stories about the successes of their colleagues. This can include studying, visiting, or speaking to colleagues from other highly efficacious organizations.
- *Social persuasion.* Providing teachers the ability to communicate with each other through positive social experiences can strengthen their conviction that the capability exists for the group to achieve relevant goals. These experiences can include but are not limited to discussion panels, workshops, professional development, and teacher feedback. Social persuasion should not be limited to verbal experiences but should rather be coupled with direct experiences as well.
- *Affective states.* "Efficacious organizations can tolerate pressure and crises and continue to function without severe negative consequences; in fact, they learn how to adapt and cope with disruptive forces" (Goddard et al., 2000, p. 484).

All four of these sources constitute processes through which the organization assesses the teaching task and faculty competence (Goddard et al., 2000).

In a school with a high level of collective teacher efficacy, teachers are more likely to act purposefully to enhance student learning and pursue their goals (Goddard et al., 2000). This is demonstrated in Goddard, Hoy, and Woolfolk-Hoy's (2000) study where a one-unit increase in

collective teacher efficacy was associated with an increase of more than 40% of a standard deviation in student achievement. These results are consistent with Bandura's (1993) study, which indicated that collective efficacy was significantly and positively associated with school-level student achievement. Hoy's (2012) study concluded that collective efficacy was more important than either academic emphasis or the socio-economic status of students. Within this same study, Hoy (2012) found that collective efficacy was especially potent when academic emphasis was high. When collective efficacy is strong, academic emphasis directs teachers' behaviors, helps them persist, and reinforces social norms of collective efficacy (Hoy, Tarter, and Woodfolk-Hoy, 2006).

School principals' instructional leadership behaviors have a positive and significant effect on teachers' self-efficacy (Calik, Sezgin, Kavgaci, and Kilic, 2012). According to Calik et al. (2012), when school principals demonstrated instructional leadership behaviors, teachers' positive perceptions about their self-efficacy grew stronger. They saw themselves as more proficient in educating and teaching students and, as a result, increased their efforts toward this purpose. As the number of teachers who had high self-efficacy increased, collective efficacy grew stronger (Calik et al., 2012). Calik, Sezgin, Kavgaci, and Kilic (2012) further argue that teachers' self-efficacy plays a mediator role between instructional leadership and collective teacher efficacy. As a result, it can be asserted that the self and collective efficacy of teachers will increase, depending on the instructional leadership they perceive. Based on the positive relationship between teacher leadership and teachers' self-efficacy and organizational learning. Kurt (2016) suggests that school leaders should not focus their energy on mandating teacher professional development and collaboration, but rather empower teachers' self-efficacy perceptions. A focus on self-efficacy will lead to the transformation of the school into an

environment that fuels each member's learning capacity and could prove to be more motivating in terms of teacher leadership (Kurt, 2016).

It is important to note the significance of the perceived self-efficacy of the principal and the impact that this has on teachers and the overall organization. Leithwood and Jantzi (2008) identify the views of inherent capacity and acquirable skills as among the strongest cognitive influences on self-efficacy. Those in leadership positions holding the inherent capacity view will experience an eroding sense of efficacy as difficulties arise, become more erratic in their problem solving, and lower their aspirations for the individuals or groups in their organization (Leithwood and Jantzi, 2008). The lowered aspirations associated with this will lead to a decline in performance. Under the acquirable skills view, the leader's self-judgments change little in response to challenging situations. These leaders will continue to set challenging goals for themselves and their colleagues and remain systematic and efficient in their problem solving (Leithwood and Jantzi, 2008). High levels of organization performance are predicted by this behavior.

Heck and Hallinger (2005) state that the development of healthy school environments and high teacher efficacy is directly related to the principal's relationships with faculty members. When school leadership promotes the efficacy of teachers, they are encouraging the development of healthy schools through harmonious interactions across the technical, managerial, and institutional control levels (Roney, Coleman, and Schlichting, 2007). Murphy and Hallinger (1992) and Roney et al. (2007) encourage educational leaders to expand the decision-making authority concerning school functions and activities to teachers. "This significantly increases the number of resources available to improve school climate, teacher efficacy, and student achievement" (Roney et al., 2007, p. 311).

Wahlstrom and Louis' (2008) study focused on trust between principals and their teachers. Their study revealed that teachers' trust of the principal was a less significant factor than anticipated considering what they acknowledge as a substantial body of research on the subject. Wahlstrom and Louis (2008) attribute this to the principal not having a significant voice in the daily instructional choices that teachers make. "In other words, trust in the principal's instructional support seems to reflect a passive rather than an active form of leadership" (Wahlstrom and Louis, 2008, p.482). Wahlstrom and Louis (2008) do not suggest that principals are unimportant in the instructional process but that their work is completed in a quiet, supportive manner, rather than through bold, visibly transformational action.

Teachers need regular and structured feedback to enhance their efficacy in instructional initiatives (Allinder, 1995). Roney et al. (2007) recommends that principals, as well as teams of teachers within a school, adopt academic emphasis as their central theme. Academic emphasis is the level at which teachers place importance on meeting the educational goals of all students (Hoy, Tarter, and Kottcamp, 1991). Data from Balse and Blase's (1999) study identified two major themes of effective instructional leadership. When principals have discussions with teachers that promote reflection of their practice as well as professional growth, the data suggest that instructional leadership strategies have strong enhancing effects on teachers–emotionally, cognitively, and behaviorally (Balse and Blase, 1999). This is consistent with Gumas, Bulut, and Bellibas' (2013) finding that Turkish principals that lead with an academic emphasis, directly supervising instruction and providing feedback to improve teacher instruction, also related positively to teacher collaboration.

We also see the instructional impact of teacher self-efficacy in Minshew and Anderson's (2015) study of a 1:1 iPad implementation in middle school math and science classrooms. Within

the study, teachers with strong self-efficacy in the pedagogical practices associated with their content area struggled to adequately integrate the iPads into their instruction. Minshew and Anderson (2015) recognized that the utilization of the iPads introduced constructivist, inquiry-based instructional practices that were unfamiliar to teachers. The same teachers who value the use of technology in their everyday lives struggled to make the connection to their classroom practice (Minshew and Anderson, 2015).

Although they do not argue for a complete lack of directions, Blase and Blase (1999) emphasize the importance of autonomy and choice to teachers' classroom performance. This is confirmed by their findings, which suggest that teacher supervision of instructional practices– including self-analysis, reflectivity, monitoring their progress toward goals, and implementing changes based on reflection–may prove useful.

Utilizing nationwide educational data sets concerning middle school teachers in Korea, You, Kim, and Lim's (2017) study concluded that teachers' perceptions of their school's culture were positively related to their job satisfaction. Approximately 11% of the variance in this study was explained by teachers' individual characteristics. "With regards to individual characteristics, teachers' efficacy significantly affected their job satisfaction" (You et al., 2017, p. 294). This study also revealed that the more teachers believed they understood their students' academic proficiency levels, the more they were satisfied with their work. According to the National Center on Education and the Economy (2014), it is estimated that 15% of Korea's GNP and 22% of household income is spent on private academic tutoring services (You et al., 2017). "Knowing that students receive academic support outside of the school may influence teachers' sense of efficacy" (You et al., 2017, p. 294). School-level characteristics explained 76.5% of the variance among schools, emphasizing that teachers' perceptions of job satisfaction are influenced by the

other adults in the school in which they work (You et al., 2017). These findings suggest that despite the perception of the autonomous teacher alone in a classroom with students, the relationships teachers have with other teachers and the administrative/leadership staff are important to their job satisfaction (You et al., 2017).

Skaalvik and Skaalvik's (2014) study found that self-efficacy predicted both engagement and job satisfaction positively and emotional exhaustion negatively. This finding supports the self-efficacy theory, which claims that self-efficacy beliefs determine how environmental opportunities and impediments are perceived (Bandura, 2006). Specifically, Skaalvik and Skaalvik's (2014) study revealed the relationship between teacher autonomy and mastery expectations. They found that teachers with strong mastery expectations may perceive autonomy as an opportunity to exhibit true academic freedom through teaching content they favor, utilizing resources of their choice, and adapting instruction to meet students as they see fit. These teachers would experience a high level of engagement and job satisfaction as they welcome the learning process and the ability to affect change. Teachers with low mastery expectations utilize this same level of autonomy to avoid challenges and perceived shortcomings. Although the opportunity for self-protection is beneficial in the short term, in the long run, autonomy may not be beneficial for learning and development for teachers with low mastery expectations (Skaalvik and Skaalvik, 2014).

School principals are often charged with leading a staff of diverse professionals with various levels of experience. In teaching, years of teaching experience is a common way to measure a teacher's level of experience. It is critical for principals to understand and learn how to affect the efficacy of teachers (Walker and Slear, 2011). Walker and Slear's (2011) study outlined specific leadership behaviors and their effect on teacher efficacy based on their total

years of experience. Modeling instructional expectations was a statistically significant predictor of teacher efficacy for teachers with less than 15 years of experience. For teachers with 3 or fewer years of experience, this was the only statistically significant predictor. Communication was a significant predictor for teachers with 4–14 years of experience. The only significant predictor for teachers with more than 15 years of experience was inspiring group purpose. This study highlights the need for a differentiated approach to leadership to positively influence teacher self-efficacy.

Self-efficacy summary. The review of the literature regarding self-efficacy is based on Bandura's (1977) social cognitive theory as well as Bandura's (1997) theory of collective efficacy. The current empirical research on these theories suggests that teachers with a greater sense of self-efficacy promote less authoritative, more creative learning environments that set ambitious goals for all students (Woolfolk, Rosoff, and Hoy, 1990; Allinder, 1995). A greater sense of self-efficacy has been demonstrated to enhance teacher leadership behaviors (Kurt, 2016). Studies have also shown that there is a relationship between school leadership and teachers' views of the functioning of the school organization and their sense of collective efficacy (Coladarci, 1992). Increases in collective teacher efficacy have led to increases in student achievement, specifically when there is a high academic emphasis (Bandura, 1993; Goddard, Hoy, and Woolfolk-Hoy, 2000; Hoy, 2012).

The school leader or principal plays a significant role in promoting high levels of self-efficacy amongst teachers. When reviewing literature on the role of the school leader and teacher efficacy, research has shown that although the building principal plays an indirect, and at times passive, role in daily instructional practices, principals' instructional leadership behavior increases teachers' perceptions of their self-efficacy (Calic et al., 2012; Wahlstrom and Louis,

2008). Discussions between teachers and principals that promote reflection of instructional practices and provide regular and structured feedback with an academic emphasis increase teacher self-efficacy (Blase and Blase, 1999; Allinder, 1995). Autonomy and academic freedom are important to teachers, but the relationships teachers have with their teaching colleagues and administrators is important to their job satisfaction and overall self-efficacy.

School Culture. School culture manifests itself in rituals, customs, stories, ways of treating each other, and in cultural artifacts such as language (Stoll 1999). It is a system of meaning that influences how people think and act. It is the role of the school principal to serve as an entrepreneur, a person of vision, able to inspire, empower, and motivate his staff (Engels, Hotton, Devos, Bouckenooghe, and Aelterman, 2008). There is also a strong association between effective principals and school cultures that support learning (Fullan, 2014). Engels et al. (2008) cite Fullan's argument that principals, facing multiple competing demands and a limited amount of time that they can spend within classrooms, should focus on transforming the culture of the school to ensure that teaching and learning function effectively.

Devos' research (2000) identified three different profiles of principal leadership based on the tasks associated with the principal. The first profile is the bureaucratic leader. A principal with this profile leads without a specific mission and is focused on rules, regulations, and paperwork. When viewed as a component of leadership, bureaucratic rule-following was found to have a negative effect on teacher morale and collaboration. "In schools where principals devote too much time to bureaucratic tasks, such as ensuring everyone sticks to the rules, resolving problems with the timetable and/or lesson planning, and checking for mistakes and errors in administrative procedures, teacher collaboration was significantly lower" (Gumus et al., 2013, p. 23). The second profile is the manager. This principal prioritizes the management of

finances, human resources, curricula, and overall output that leads to a positive image of the school. “Most managers are dynamic and work for the school’s best interest” (Engels et al., 2008, p. 8). The third type of leader is the educational leader. This leader is concerned with, but does not limit their concern to, the overall well-being of students, innovation in instructional practices, and having policy focused on the counseling of students. Devos (2000) suggests a positive relationship between the third leadership profile and positive school cultures.

School culture is regarded as one of the important variables contributing to progressive school reform (Rhodes, Camic, Milburn, and Lowe, 2009). Children who do not experience a supportive school culture may never achieve proficiency or academic excellence (Rhodes et al., 2009). Bolman and Deal (2013) wrote that “[c]lear, well-understood goals, roles, and relationships and adequate coordination are essential to performance.” Within the distributive model, effective principals establish structures that promote the conditions that allow staff to be creative and build relationships that allow them to grow professionally. “If structure is too loose, people go astray, with little sense of what others are doing. But rigid structures stifle flexibility and creativity and encourage people to waste time trying to beat the system” (Bolman and Deal, 2013).

A team structure emphasizing hierarchy and top-down control tends to work well for simple, stable tasks. As work becomes more complex or the environment more turbulent, structures must also develop more multifaceted and lateral forms of communication and coordination (Bolman and Deal, 2013). Chance, Cumming, and Wood (1996) advocate for a new approach to principal leadership in which teachers are active partners in the educational process. This partnership includes acceptance of the school-wide vision and a willingness to monitor and collect data on a continuous basis. The structures principals establish within schools have a

greater impact on instruction than principals themselves. Hoy, Tarter, and Woolfolk-Hoy's (2006) findings, in their study on Academic Optimism, downplay the role of the principal as an instructional leader, going as far stating that instructional leadership has an indirect relationship with student achievement through academic emphasis. The structure of a school must encourage teachers to believe that they can make a difference. Hoy correctly points out that there must be a willingness to be vulnerable and that cooperation and trust will set the stage for effective student learning. Once the right conditions have been established and the distributive processes set in motion, Fullan (2011) encourages leaders to trust the processes and the people in them.

Mintzberg states:

> "Leadership is not about making clever decisions and doing bigger deals, least of all for personal gain. It is about energizing other people to make good decisions and do other things. In other words, it is about helping release the positive energy that exists naturally within people. Effective leadership inspires more than empowers; it connects more than controls; it demonstrates more than it decides. It does all of this by engaging—itself above all and consequently others" (Fullan, 2011).

In a similar vein, Pfeffer and Sutton (2006) recommend that leaders create atmospheres in which people can constantly learn from each other as they face internal and external realities (Fullan, 2011).

Fullan (2011) asserts that building collective capacity among school leaders and teachers sets the conditions for sustained innovation and risk-taking that can improve the quality of student learning. Reames and Spencer's research (1998) indicated that structures such as encouragement of innovation and risk-taking, school goals and planning, staff development and in-services, and

viewing the school as a community of learners were important to teachers' organizational commitment and sense of personal efficacy.

Given the belief that teachers, both individually and as a group, know what they need for professional growth, it is the role of the principal to facilitate such growth by providing teachers with released time when needed, financial support when possible, and opportunities to make appropriate professional decisions about their staff development (Chance et al., 1996). The distributive leadership model emphasizes the role of the principal as a capacity builder rather than an instructional leader. Goodlad (2004), states that most principals lack the ability to lead collaboratively because of the emphasis placed on instructional leadership above collaborative leadership that empowers school members to engage in decision-making processes. Day (2005) contends that high performing principals have an innate ability to reform and cultivate teaching and learning practices that promote a trusting school culture and community involvement, which can lead to increased student achievement. It is significant that although high performing principals are considered instructional leaders, the ability of the principal to lead collaboratively and build a culture of learning in which teachers experience respect, trust, and professional satisfaction has a significant impact on student achievement (Hoy et al., 2006).

"A collaboration culture is the systematic process teachers and administrators use to work together, interdependently, to analyze and impact their professional practice in order to improve student achievement" (Carpenter, 2015). Grenda and Hackmann (2014) cite research that supports the premise that students benefit from the community that is established as a result of an effective interdisciplinary team. For teachers, teaming promotes collaboration, the development of professional learning communities, and the initiation of distributed leadership practices among team members and throughout the school (Scribner, Sawyer, Watson, and Myers, 2007;

Valentine, 2002). “Data revealed that teacher leadership and collaboration surpassed the ability of outside experts to transform school practices” (Dove and Freely, 2011). Teachers collaborating in interdisciplinary teams at the middle school level results in an ongoing professional learning community that has an immediate and ongoing impact on student learning.

An organization’s culture determines its climate (Gruenert, 2008). The updated version of The Organizational Climate Description Questionnaire (OCDQ) focuses on two basic dimensions of school climate–openness and intimacy (Kottkamp, Mulhern, and Hoy, 1987). Openness refers to a school climate where teachers and principals display behavior that is authentic, energetic, goal-orientated, and supportive (Kottkamp et al., 1987). In an open climate, both the principal and teachers gain satisfaction from task accomplishment and social-need gratification. The opposite is true in a closed climate where the principal is rigid and non-supportive. Teachers in a closed climate are easily frustrated. The second dimension of intimate teacher behavior reflects a strong and cohesive network of social relationships among the faculty (Kottkamp et al., 1987). These two dimensions are not dependent on one another. For example, it is possible to have intimate teacher behavior under the leadership of a closed leader. In this case, the teachers will unite in opposition to the leader.

In Park’s (2012) study, when teachers perceived their principal as an initiator or manager rather than as a responder, they recognized that their school’s organizational climate to be supportive of innovation. Park’s (2012) study involved four principals in Finland who differed greatly in their leadership roles. Amongst these four principals, variations were noted in time spent in the school building, distribution of leadership responsibilities, and informal and motherly versus professional business-like approaches. Even though each principal demonstrated

unique characteristics that reflected their role, all of the principals assumed roles as emotional and ethical leaders for their school.

"Creating a climate supportive of innovation is a crucial catalyst for successful school change" (Park, 2012). Park (2012) asserts that principals as change agents need to demonstrate a more initiative-based leadership style to facilitate change effectively. The role of facilitator of change is significant, as the results of Park's (2012) study revealed that teachers reported a lower level of support for innovation in their school climate when they worked under the administration of more educated principals. A more educated principal may have more academic input with which to guide teachers, leading teachers to feel their teaching autonomy or creativeness is being disrupted.

When shared leadership among colleagues has failed, it has been the result of a lack of professional development or insufficient time for staff to implement required practices. Shifting from a top-down, authoritative structure to a distributive model is a complex process. To combat the complexities of the change process, Fullan (2010) suggests that leaders implement "the smallest number of high-leverage, easy-to-understand actions that unleash stunningly powerful consequences." He asserted that reducing complexity and simplifying the experience will reduce the chances that staff become overwhelmed and make them more likely to embrace change. Instead of promoting intangible visions of school improvement, leaders should provide low-anxiety experiences and build upon positive outcomes (Fullan, 2010). It is interesting to note that the Korean teachers in You, Kim, and Lim's (2017) study did not place great weight on participating in decision-making processes. As teachers become more involved in critical decisions concerning the direction of the school, their communication becomes more complex

(You et al., 2017). This change in communication may be a source of demotivation and job stress that, in turn, creates a negative influence on the lives of teachers (Davis and Wilson, 2000).

The school principal has a tremendous impact on the establishment of a school work culture by developing and forming an understanding of the various components and characteristics of culture in his or her school (Chance et al., 1996). Schools in Finland emphasize developing their students' moral character, and principals share the values of tolerance, care, and equality. In Lahtero and Risku's (2013) study, they noted specific symbolic messages conveyed by a Finnish principal's words and actions that impacted on the culture and climate of the school. Lahtero and Risku (2013) asserted that the "[p]rincipal's personal qualities, values, and social skills create an atmosphere in the schools that make it possible to educate moral citizens who take responsibility for the future and respect other cultures as well as their own." Within the study, the symbolic messages sent by the principal included the use of humor when he participated in school-wide celebrations with both staff and students as well as times when the principal decided not to wear formal clothing. The message sent through these actions was purposeful, as they do not resemble those of an authoritarian leader. Communality was another essential characteristic of the leadership culture in this Finnish school. Staff meetings were held in the cafe of the school, which could accommodate the entire staff comfortably so they could be seated at tables and be able to make eye contact. The principal in the study frequently demonstrated appreciation for staff through commendations and by recognizing teachers publicly during community-wide events.

The development of purpose and values are essential to healthy school cultures and effective professional learning communities. A collaborative culture is the way teachers and administrators think and behave about sharing information concerning their practice (Carpenter,

2015). A true collaborative culture exists when stakeholders utilize their individual expertise in order to problem solve and improve their practice and the practice of others. Within a collaborative culture, participants believe professional knowledge, skills, and contributions are valued. Supportive and shared leadership should be a priority characteristic for a positive school culture and an effective professional learning community (Chapman and Harris, 2004; Reichstetter, 2006).

School culture summary. School culture is a system of meaning that influences how people think and act. Through the review of the selected literature, various theories and management styles were examined. The common theme through each of the theories is that the management structure of the organization influenced the behavior of the members of the organization. Empirical research has demonstrated that building an organization's capacity to promote innovation and risk-taking through meaningful professional development experiences can promote a positive school culture resulting in teachers who believe they can make a difference (Hoy, 2006; Fullan, 2010; Reames and Spencer, 1998).

Open climates exist where all stakeholders display behavior that is authentic, energetic, goal-orientated, and supportive. Based on empirical research, it can be asserted that principals must be seen as the emotional and ethical leaders of their schools. Although empowering teachers in the decision-making process has proven to be a significant characteristic of schools with a positive culture, this empowerment must be done in a manner that is easy to understand and results in powerful observable results (Fullan, 2010). Imposing decision making power on teachers in a manner that is overly complex may be a source of demoralization and job stress (Davis and Wilson, 2000). A true collaborative school culture exists when stakeholders utilize their individual expertise to solve problems and improve their practice.

Conclusion

Research confirms that administrative leadership is shifting away from time-honored hierarchical relationships to embrace distributed leadership practices (Smylie, Mayrowetz, Murphy, and Seashore-Louis, 2007). Schools that are micromanaged often lack a progressive culture. On the contrary, charismatic principals with inadequate managerial skill sets will raise academic standards momentarily but will eventually fail (Bolman and Deal, 2008).

It is suggested that high-performing principals have the skill sets required to prepare for the future as well as to put plans in place to empower teachers and staff to bring the school's vision to fruition (Kelley, Thornton, and Daugherty, 2005). This can be accomplished through leadership practices that are shared and stretched across various members of the organization (Smylie, Conley, and Marks, 2002). The expertise of individuals is valued and embraced; as a result, teachers, whom Marzano (2003) asserts have the greatest in-school influence on student achievement, are empowered to engage in leadership roles and transfer their knowledge and skills throughout the school organization.

The purpose and values espoused by a school will have a direct impact on the culture and climate that stakeholders are exposed to. The desire of a school leader to establish an effective school work culture both implies and necessitates a system for continuous improvement on the part of all stakeholders (Chance et al., 1996). Evidence presented by Leithwood and Jantzi (2008) suggests that organizational design is most closely related to high levels of school leader self-efficacy. Principals with a high sense of self-efficacy will establish collaborative cultures and the structures associated with them to encourage collaboration. In a system where decision making is participatory for teachers, teacher commitment and efficacy are enhanced (Rosenholtz, 1989). This results in what Bandura (1997) describes as collective efficacy, which "is a shared

belief of a group about organizing and managing action phases needed for producing skills at certain levels" (P. 477).

An overarching goal of this study was to determine what relationship, if any, exists between distributive leadership, school culture, and teacher self-efficacy within middle schools. Analyzing the relationships between these variables will support other principals in making decisions in how to lead their schools during a time of ever-increasing mandates and budgetary restrictions in a way that encourages and empowers teachers.

Chapter 3

Methodology

Overview

Today's principals can easily feel paralyzed by the many pressures and responsibilities associated with their role. In today's educational environment, a traditionally authoritative, top-down leadership framework can be all consuming and distract school leaders from their most significant responsibilities. Without an effective leadership framework in place, a middle school principal can be a barrier to a positive school culture. Recent research suggests middle school teachers have a lower sense of self-efficacy than their elementary or high school counterparts. A less traditional leadership framework that goes beyond transactional (focusing on compliance) and instructional leadership (heavily emphasizing teaching and learning) is needed.

Middle school principals lead schools characterized by a unique set of programs, practices, and curricula (Gale and Bishop, 2014). Turning Points 2000 recommends that middle schools be characterized by rigorous standards and curricula, equitable and excellent instruction, preparation and support of expert teachers, schools organized into small units and instructional teams, democratic governance, and a healthy collaborative learning environment that brings together all stakeholders within the school and surrounding communities (Jackson, Bordonaro, Davis, Abeel, and Hamburg, 2000). Teachers at the middle school level work with students who possess developmental needs that differ from their elementary and secondary counterparts. Gale and Bishop (2014) point out that the developmental nature of young adolescents that populate middle schools is one that straddles the line between a need for independence and the desire for the reassurance of understanding adult role models (Brighton, 2007; Powell, 2011; Stevenson, 2002). Educators within this age group are accustomed to working with students who are

confident, energetic, and mature in one moment while emotionally fragile, lethargic, and child-like in the next (Brighton, 2007). A complex learning environment such as a middle school requires a systems-based leader who strives for equity and inclusion by giving their school community a sense of worth and empowerment (Hopkins, 2008). Through a distributive leadership model at the middle school level, "principals are able to provide leadership by building and maintaining a vision, direction, and focus for student learning while promoting an atmosphere of participation, responsibility, and ownership" (Peters, Carr, and Doldan, 2018, p. 33).

Distributive leadership focuses on the principal's ability to cultivate a collaborative culture where specific leadership roles are distributed between various staff members. Davis (2014) asserts that the adoption of a distributed leadership model within a school has been shown to have a positive effect on student achievement (Fiore, 2000; Johnson and Stevens, 2006; MacNeil, Pratel, and Busch, 2009; Sheppard, Hurley, and Dibbon, 2010; Shouppe and Pate, 2010). Davis' (2014) study measured the effects of such a leadership model on school culture and teacher self-efficacy at the elementary school level. The effects of this leadership model on school culture and teacher self-efficacy at the middle school level have yet to be established.

Research Design

The purpose of this correlational research study is to replicate Davis' (2014) study, which aimed to establish whether and to what extent there exists a relationship between distributed leadership, school culture, and teacher self-efficacy. Davis' study focused on elementary school teachers in southern Arizona. The focus of this study will be on teachers in public middle schools in Central New Jersey.

Research Questions

- **Question 1.** What is the relationship between **distributive leadership** and the **self-efficacy** of teachers in suburban public middle schools in Central New Jersey, as measured by the Distributed Leadership Inventory (DLI) and Teacher Self-Efficacy Scale (TSES)?
- **Question 2.** What is the relationship between **distributed leadership** and **school culture** in suburban public middle schools in Central New Jersey, as measured by the Distributed Leadership Inventory (DLI) and School Culture Survey (SCS)?
- **Question 3.** What is the relationship between **school culture** and the **self-efficacy** of teachers in suburban public middle schools in Central New Jersey, as measured by the School Culture Survey (SCS) and Teacher Self-Efficacy Scale (TSES)?

The purpose of the study is to clarify the field's understanding of important phenomena through the identification of relationships between variables. A quantitative research design was best suited to answer the research questions as prior research has been primarily qualitative in nature–based around interviews and observations regarding distributed leadership activities (Leithwood et al., 2007; Smylie et al., 2007; Spillane, 2006). This study is a non-experimental, relational study with a correlational design and a cross-sectional time dimension.

The school culture frameworks developed by Bolman and Deal (2003) and the teacher self-efficacy framework developed by Bandura (1997) have been used to describe the effects of both school culture and teacher self-efficacy on student achievement. However, prior to Davis' study, a clear relationship had yet to have been shown between distributed leadership, school culture, and teacher efficacy. Davis' study focused on elementary school teachers, the relationship between these variables has yet to be proven at the middle school level.

Sampling

Five middle schools within Middlesex and Mercer Counties in New Jersey were identified for the study. At the time of this study, each of these suburban middle schools had a diverse student population exceeding 1,000 students. The organizational structure of each participating school included: school-based administrative leadership consisting of a principal and vice or assistant principals for each grade or house, interdisciplinary teams of teachers that were provided daily team planning time, and inclusive programs for students with disabilities or in need of instructional support. The participants for this study were teachers of students in Grades 6–8 from each of these five schools. The participants completed 68 questions on distributed leadership within their school, their individual school culture, and their own self-efficacy. The sampling of these schools provided a range of leadership practices and approaches to managing a large, ethnically and socioeconomically diverse, suburban middle.

Lenth (2001) asserts that the minimum sample size for a correlational study according to most researchers is 30; samples larger than 30 are more likely to provide more meaningful results. To determine the required sample size for this study, the following sample size calculation was utilized: Total Sample Size $= N = \left[\frac{Z_\alpha + Z_\beta}{C}\right]^2 + 3$ (Hulley, Cummings, Browner, Grady, and Newman, 2013).

The study collected quantitative data utilizing the following three instruments, the Distributed Leadership Inventory (DLI), the School Culture Survey (SCS), and the Teacher Self-Efficacy Scale (TSES). For this research, a purposeful sampling strategy was conducted. Inclusion in the sample required being a certified teacher within the middle school(s) of the targeted school districts. Because the research study involved school employees, permission was sought from the superintendent for each district.

Instrumentation

Primary data was collected through an online survey using SurveyMonkey. The survey included three already existing, validated data collection instruments. The three surveys measured the variables of distributed leadership, school culture, and teacher self-efficacy. All three surveys included Likert-scale items ranging from 1 = strongly agree to 5 = strongly disagree. Each of the three surveys was structured using an identical Likert scale. The survey consisted of 68 questions (the DLI has 23 questions, the SCS has 35 questions, and the TSES has 10 questions). Additionally, questions were posed to respondents in order to obtain demographic descriptors including school, grade, role within the school, years of teaching, and gender.
The validated surveys include questions that focus on the factors of school culture, teacher self-efficacy, and distributed leadership. The Distributed Leadership Inventory (DLI) was used to measure teacher perceptions of distributed leadership; the School Culture Survey (SCS) was used to measure the variable of school culture; and the Teacher Self-Efficacy Scale (TSES) was used to measure the variable of teacher self-efficacy. Approval was granted to utilize each of these survey instruments.

Data Collection

Individual email addresses for the middle school teachers were obtained from each school district. The teachers identified through email addresses were cross-referenced with each school's website to ensure that each respondent met the criteria of the study. Teachers were invited to participate in this voluntary study via email, and participants completed all three survey scales as if they were a single survey. The survey was accessible through a SurveyMonkey link that allowed teachers to access the survey. It was expected that the survey would take 20–25 minutes to complete. The email to teachers contained a detailed explanation of the study in addition to the

link to the survey. Through the solicitation letter, teachers were informed that their participation in the study was voluntary and that their responses would remain anonymous and confidential. Participants would be able to request a final copy of the research findings via email.

Data Analysis

Research Question 1 focused on the relationship between distributed leadership and the self-efficacy of teachers. To determine an individual score for each of the dimensions of distributed leadership, the scaled scores on each teacher survey were calculated for the three dimensions by adding up the points from the questions that corresponded with each dimension and calculating a mean for each dimension. To determine overall self-efficacy, the responses to each question were added together and then a mean was calculated. Standard deviations were also calculated. The correlational coefficient was calculated using the correlational coefficient with distributed leadership as the x value and self-efficacy as the y value.

Research Question 2 focused on the relationship between distributed leadership and school culture. To determine an individual score for each of the dimensions of distributed leadership, the scaled scores on each teacher survey were calculated for the three dimensions by adding up the points from the questions that corresponded with each dimension and calculating a mean for each dimension. To determine an individual score for each of the factors of school culture, the scaled scores on each teacher survey were calculated for the six factors by adding up the points from the questions that correspond with each dimension and calculating a mean for each dimension. The correlational coefficient was calculated using the correlational coefficient with distributed leadership as the x value and school culture as the y value.

Research Question 3 focused on the relationship between school culture and the self-efficacy of teachers. To determine an individual score for each of the factors of school culture,

the scaled scores on each teacher survey were calculated for the six factors by adding up the points from the questions that correspond with each dimension and calculating a mean for each dimension. To determine the overall self-efficacy, the responses to each question were added together and a mean was calculated. Standard deviations were also calculated. The correlational coefficient was calculated using the correlational coefficient with school culture as the x value and self-efficacy as the y value.

A Bivariate Pearson's Correlation Coefficient analysis was conducted on the obtained data regarding distributed leadership, school culture, and teacher self-efficacy. The individual respondents to the study were the unit of analysis. Both descriptive and inferential statistical data analyses were performed to identify relationships and correlations between variables and to answer the research questions. In order to determine if a particular subgroup was causing an inflated correlation coefficient, additional correlational analyses were conducted on subgroups with a response rate greater than 30.

Chapter 4

Analysis of the Data

Introduction

The purpose of this chapter is to present the analysis of the data collected for the current research study. The study was designed to examine the relationship between distributive leadership, school culture, and teacher self-efficacy at the middle school level. Quantitative data were obtained utilizing the following three survey instruments: the Distributed Leadership Inventory (DLI), the School Culture Survey (SCS), and the Teacher Self-Efficacy Scale (TSES).

In this chapter, first, the results of the descriptive data for the study are reported and analyzed. Second, the results of reliability tests–conducted to ensure that there was an appropriate measure of internal consistency among all of the items examined–are presented. Finally, the results of a Bivariate Pearson's Correlation Coefficient analysis–conducted on the obtained data regarding distributed leadership, school culture, and teacher self-efficacy–are presented. This analysis answered the three research questions based on the results of the total sample surveyed as well as the subgroups examined.

Research Questions

- **Question 1.** What is the relationship between **distributive leadership** and the **self-efficacy** of teachers in suburban public middle schools in Central New Jersey, as measured by the Distributed Leadership Inventory (DLI) and the Teacher Self-Efficacy Scale (TSES)?
- **Question 2.** What is the relationship between **distributed leadership** and **school culture** in suburban public middle schools in Central New Jersey, as measured by the Distributed Leadership Inventory (DLI) and the School Culture Survey (SCS)?

- **Question 3.** What is the relationship between **school culture** and the **self-efficacy** of teachers in suburban public middle schools in Central New Jersey, as measured by the School Culture Survey (SCS) and the Teacher Self-Efficacy Scale (TSES)?

Descriptive Data

This study was conducted across five middle schools within Middlesex and Mercer Counties in New Jersey. At the time of the study, each of these suburban middle schools had a diverse student population exceeding 1,000 students. The survey was conducted during the spring of the 2017/2018 school year. The combined total student population of these schools at the time of the study was approximately 5,300 students. Permission to conduct the study was obtained from the superintendent of each of the school districts (see Appendix H). The participants for this study were teachers of students in Grades 6–8 from each of these five schools. The teachers were invited to participate in this voluntary study via email. The participants included in the results of the study completed all of the questions on the Distributed Leadership Inventory (DLI), School Culture Survey (SCS), and Teacher Self-Efficacy Scale (TSES), which were combined into one survey for the purpose of this study. The survey was accessible through a SurveyMonkey link that allowed teachers to access and complete the survey.

To determine the sample size, the following sample size calculator formula was used (Hulley, Cummings, Browner, Grady, and Newman, 2013):

$$\text{Total Sample Size} = N = \left[\frac{Z_\alpha + Z_\beta}{C}\right]^2 + 3$$

The following information was entered into the correlation sample size calculator:

$\propto$ (two tailed) = 0.050 The threshold probability for rejecting the null hypothesis. Type I error rate.

β = 0.100 The probability of failing to reject the null hypothesis under the alternative hypothesis. Type II error rate.

r = 0.300 The expected correlation coefficient.

For a confidence level of 95% (for a study in which a total of 429 potential certified Grade 6–8 middle school teachers (the target population size) were invited to participate), the analysis of the sample size computed that at least 113 responses were necessary to produce statistically significant results. Of the 429 survey invitations, 162 were completed–a return rate of 37.76%. The response rate per school is displayed in Table 1.

Table 1: Response Rate per School

School	*Frequency*	*Percentage*
School A	26	16.0
School B	29	17.9
School C	39	24.1
School D	23	14.2
School E	45	27.8
Total	162	100.0

The demographic descriptor of role within the school was included to ensure an adequate distribution of data between different groups of teachers. Including this question also provided the possibility of creating teacher subgroups based on teaching role in order to compare the results of each subgroup as part of the statistical analysis of the study. The respondents were given the option of declining to answer demographic data. The return rate for the question regarding the teacher's role within their school is displayed in Table 2.

Table 2: Response Rate for Role Within the School

Role	*Frequency*	*Percentage*
General Education Core Subject Teacher	93	57.4
Special Education or Support Skills Teacher	32	19.8
Related Arts/Encore Teacher	37	22.8
Total	162	100.0

The demographic descriptor for years of experience as an educator was included to display the distribution of data between different ranges of teaching experience. Including this question also raised the possibility of determining if years of experience as an educator had an impact on the data collected. Teachers were also given the option of declining to respond to this collection of demographic information. The return rate for years of experience as an educator is displayed in Table 3.

Table 3: Response Rate for Years of Experience as an Educator

Years of Experience	*Frequency*	*Percentage*
0–5 Years	23	14.2
6–10 Years	12	7.4
11–20 Years	83	51.2
More than 20 Years	43	26.5
Declined to Specify	1	0.6
Total	162	100.0

The final demographic question posed to the participants was to identify their gender. The study participants were given the opportunity to decline to respond to this demographic question. This question was included in order to provide the possibility of comparing male and female subgroups to each other as part of the statistical analysis of the study.

Table 4: Response Rate for Gender

Gender	*Frequency*	*Percentage*
Female	124	76.5
Male	38	23.5
Total	162	100.0

Data Analysis Procedures

This section provides an explanation of how the raw data related to the research questions, the validity of data, and sources of error and their effect on the data. The data from the three survey instruments were analyzed using the Statistical Package for the Social Sciences (SPSS®) version 24 to measure the relationship between distributed leadership, school culture, and teacher self-efficacy. The three research questions were used to guide the analysis. Data from the Distributed Leadership Inventory (DLI), School Culture Survey (SCS), and Teacher Self Efficacy Scale (TSES) were assessed for data completion and cataloged by demographics to identify groups and subgroups for statistical analysis. The data was coded in such a way that individuals were de-identified in order to maintain the anonymity of the participants.

Only complete surveys with all three survey instruments completed were included in the analysis. Any survey that did not have all three surveys (DLI, SCS, and TSES) complete was excluded from the analysis (n=52). Surveys with only demographic data not completed due to

the participants declining to answer those specific questions were included in the study. The final sample used for the analysis consisted of 162 middle school teachers of students in Grades 6–8 who completed the DLI, SCS, and TSES.

Reliability. Measures of internal consistency were performed on the three scales, individually, in order to determine the nature of the scales. The mean scores and standard deviations of all items within the scale were examined. Item to scale correlations were compared. The reliability of the scales was examined through the calculation of Cronbach's alpha coefficients. Cronbach's alpha (α) was utilized to assess the internal consistency of the surveys, which were made up of Likert-type scales and items. Cronbach's alpha (α) is interpreted as a correlation coefficient and ranges in values from 0.0 to 1.0. Scales that obtain alpha (α) levels of 0.55 or greater are considered to be reliable (Cronbach, 1951). The Cronbach's alpha (α) scores presented in this study are standardized, allowing for direct comparisons between the scales. Through the reliability analysis that was carried out on the value scales for the DLI, SCS, and TSES, Cronbach's alpha (α) showed that each of the survey scales to be of acceptable reliability as displayed on Tables 6, 8, and 10. All survey items were worthy of retention–deletions resulted in decreases in the alpha.

Distributed leadership. The Distributed Leadership Inventory (DLI) (Hulpia et al., 2009) (see Appendix B) was utilized to gather data about the extent of each school's distributive leadership. The DLI includes 23 items that measure three dimensions of distributed leadership: support, supervision, and coherent leadership team. The participants answered each of the 23 questions by responding with one of five Likert-type options: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree. The greater the score on the respective dimension of the DLI, the more the respondents agreed with the statements from the respective

dimension. The data from the DLI including the minimum and maximum score, the mean score, and the standard deviation are outlined in Table 5. All of the scores that were gathered were complete and valid. The mean score for each dimension was as follows: support–3.63, supervision–4.07, and coherent leadership–3.59. In order to determine the overall mean score for the DLI, Hulpia et al. (2009) recommend that researchers calculate the average of the mean scores for each dimension of distributed leadership. The dimensions of support, supervision, and coherent leadership were added together for a total of 11.29 and then divided by three in order to attain an overall mean score of 3.76 for distributed leadership.

The reliability statistics for the DLI are outlined in Table 6. The alpha (α) for the DLI was .94 indicating that this 23-item instrument adequately measured the three distributed leadership dimensions. The alpha (α) score for support was .87. The alpha (α) score for supervision was .84. The alpha (α) score for coherent leadership was .92.

Table 5: Descriptive Statistics for DLI (n=162)

Dimension	*Range*	*Minimum*	*Maximum*	*Mean*	*SD*	*Variance*
Support	1.04	2.88	3.92	3.63	.30	.09
Supervision	.22	3.95	4.17	4.07	.11	.01
Coherent Leadership	.65	3.29	3.94	3.59	.22	.05

Table 6: Reliability Statistics for DLI (n=162)

Dimension	Cronbach's Alpha	Cronbach's Alpha Based On Standardized Items	No. of Items
Support	.87	.87	10
Supervision	.84	.84	3
Coherent Leadership	.92	.92	10
Reliability Coefficients for DLI	.94	.94	23

School culture survey. The School Culture Survey (SCS) (Gruenert, 1998) (see Appendix D) was utilized to gather data about each school's culture. The SCS includes 35 items that measure six factors of school culture: collaborative leadership, teacher collaboration, professional development, unity of purpose, collegial support, and learning partnership. The participants answered each of the 35 questions by responding with one of five Likert-type options: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree. The greater the score on the respective factor of the SCS, the more the respondents agreed with the statements from the respective factor. The data from the SCS including the minimum and maximum score, the mean score, and the standard deviation are outlined in Table 7. All of the scores that were gathered were complete and valid. The mean score for each factor was as follows: collaborative leadership–3.41, teacher collaboration–3.16, professional development–3.76, unity of purpose–3.65, collegial support –3.98, and learning partnership–3.26. According to Gruenert (1998), there is no one score that determines the school culture, but rather all six factors working together to constitute the overall culture.

The reliability statistics for the SCS are outlined on Table 8. The alpha (α) for the SCS was .95 indicating that this 35-item instrument adequately measured the six factors of school culture. The alpha (α) score for collaborative leadership was .91. The alpha (α) score for teacher collaboration was .76. The alpha (α) score for professional development was .82. The alpha (α) score for unity of purpose was .90. The alpha (α) score for collegial support was .79. The alpha (α) score for learning partnership was .76.

Table 7: Descriptive Statistics for SCS (n=162)

Dimension	*Range*	*Minimum*	*Maximum*	*Mean*	*SD*	*Variance*
Collaborative Leadership	.93	3.00	3.93	3.41	.29	.08
Teacher Collaboration	.89	2.62	3.51	3.16	.33	.11
Professional Development	.82	3.24	4.06	3.76	.365	.13
Unity of Purpose	.45	3.41	3.86	3.65	.16	.03
Collegial Support	.45	3.77	4.22	3.98	.19	.03
Learning Partnership	.79	2.99	3.78	3.26	.36	.13

Table 8: Reliability Statistics for SCS (n=162)

Dimension	Cronbach's Alpha	Cronbach's Alpha Based On Standardized Items	No. of Items
Collaborative Leadership	.91	.91	11
Teacher Collaboration	.76	.76	6
Professional Development	.73	.76	5
Unity of Purpose	.90	.90	5
Collegial Support	.79	.79	4
Learning Partnership	.76	.75	4
Reliability Coefficients for SCS	.95	.95	35

Teacher self-efficacy scale (TSES). The Teacher Self-Efficacy Scale (TSES) (Schwarzer et al., 1999) (see Appendix F) was utilized to measure teacher self-efficacy. The TSES includes 10 items that measure dimensions of teacher self-efficacy including job accomplishment, skill development on the job, social interactions with various stakeholders, and coping with job stress. The participants answered each of the 10 questions by responding with one of five Likert-type options: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree. The greater the score on the respective questions of the TSES, the more the respondents agreed with the statements from the respective questions. The data from the TSES, including the minimum and maximum scores, the mean score, and the standard deviation are outlined in Table 9. All of the scores that were gathered were complete and valid. The mean score for teacher self-efficacy was 4.13. The reliability statistics for the TSES are outlined on Table 10. The alpha (α) for the TSES was .90 indicating that this 10-item instrument adequately measured teacher self-efficacy.

Table 9: Descriptive Statistics for TSES (n=162)

	Range	*Minimum*	*Maximum*	*Mean*	*SD*	*Variance*
TSES	.48	3.85	4.33	4.13	.15	.02

Table 10: Reliability Statistics for TSES (n=162)

	Cronbach's Alpha	Cronbach's Alpha Based On Standardized Items	No. of Items
TSES	.90	.90	10

Results of the Study

This section will present both descriptive data and inferential statistics in a non-evaluative or unbiased manner. The statistical data were analyzed using the IBM® SPSS® version 24 data analysis software. Results from the teacher surveys were gathered on SurveyMonkey® then entered into an SPSS® database for further analysis. The data is framed relative to the research questions and the hypotheses.

Frequency distribution. The descriptive statistics for this study include the frequency of distribution of scores which is located in Appendix J. There were 162 teachers who chose to participate in this study. The lowest score achievable on each question was 1, the highest score achievable was 5.

Findings for research question 1. Research Question 1 focused on the relationship between distributive leadership and the self-efficacy of middle school teachers. The results of the correlational analysis indicate that there was a significant statistical relationship between the two variables. As displayed in Table 11, the correlation between the DLI and TSES was .405 (r=.405,

N=162, p=.000). This represents a moderate/low, positive degree of correlation and was statistically significant at the .01 level of significance.

Table 11: Pearson's Correlation between DLI and TSES

		DLI	TSES
DLI	Pearson Correlation	1	.405**
	Sig. (2-tailed)		.000
	N	162	162
TSES	Pearson Correlation	.405**	1
	Sig. (2-tailed)	.000	
	N	162	162

** Correlation is significant at the .01 level (2-tailed).

Additional analysis was conducted using Pearson correlation between the various dimensions of the DLI and the TSES to determine if a particular dimension of distributed leadership had a stronger relationship with teacher self-efficacy. As displayed in Table 12, the correlation between the support dimension of DLI and the TSES was .373 (r=.373, N=162, p=.000). This represents a low positive correlation and was statistically significant at the .01 level of significance. The correlation between the supervision dimension of DLI and the TSES was .200 (r=.200, N=162, p=.011). This represents little if any degree of correlation and was statistically significant at the .05 level of significance. The correlation between the coherent leadership dimension of DLI and the TSES was .384 (r=.384, N=162, p=.000). This represents a low positive correlation and was statistically significant at the .01 level of significance. Although the supervision dimension had the lowest degree of correlation among the dimensions, each of the individual dimensions had a lower correlation to the TSES when compared with the correlation between the DLI and the TSES.

Table 12: Pearson's Correlation between Dimensions of DLI and TSES

		Support	Supervision	Coherent Leadership	TSES
Support	Pearson Correlation	1	.535**	.687**	.373**
	Sig. (2-tailed)		.000	.000	.000
	N	162	162	162	162
Supervision	Pearson Correlation	.535**	1	.514**	.200*
	Sig. (2-tailed)	.000		.000	.011
	N	162	162	162	162
Coherent Leadership	Pearson Correlation	.687**	.514**	1	.384**
	Sig. (2-tailed)	.000	.000		.000
	N	162	162	162	162
TSES	Pearson Correlation	.373**	.200*	.384**	1
	Sig. (2-tailed)	.000	.011	.000	
	N	162	162	162	162

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Further analysis was conducted using Pearson's correlation to determine the relationship between distributed leadership and teacher self-efficacy within the following subgroups: female, male, more than 20 years teaching experience, and special education/support teacher. Table 13 illustrates that the correlation between the DLI and the TSES for the female subgroup was .472 (r=.472, N=124, p=.000). This represents a moderate/low-moderate positive correlation and was statistically significant at the .01 level of significance. The analysis of the male subgroup for the relationship between the DLI and the TSES showed no statistically significant results.

Table 13: Pearson's Correlation between DLI and TSES (Female subgroup)

		DLI	TSES
DLI	Pearson Correlation	1	.472**
	Sig. (2-tailed)		.000
	N	124	124
TSES	Pearson Correlation	.472**	1
	Sig. (2-tailed)	.000	
	N	124	124

** Correlation is significant at the .01 level (2-tailed).

Table 14 displays the correlation between the DLI and the TSES for the more than 20 years teaching subgroup was .389 (r=.389, N=43, p=.010). This represents a low positive correlation and was statistically significant at the .01 level of significance.

Table 14: Pearson's Correlation between DLI and TSES (More than 20 Years subgroup)

		DLI	TSES
DLI	Pearson Correlation	1	.389**
	Sig. (2-tailed)		.010
	N	43	43
TSES	Pearson Correlation	.389**	1
	Sig. (2-tailed)	.010	
	N	43	43

** Correlation is significant at the .01 level (2-tailed).

Table 15 displays the correlation between the DLI and the TSES for the special education/support teacher subgroup was .407 (r=.407, N=32, p=.021). This represents a low-moderate positive correlation and was statistically significant at the .05 level of significance.

Table 15: Pearson's Correlation between DLI and TSES (Special Ed/Support subgroup)

		DLI	TSES
DLI	Pearson Correlation	1	.407*
	Sig. (2-tailed)		.021
	N	32	32
TSES	Pearson Correlation	.407*	1
	Sig. (2-tailed)	.021	
	N	32	32

** Correlation is significant at the .05 level (2-tailed).

Findings for research question 2. Research Question 2 focused on the relationship between distributive leadership and school culture in suburban middle schools. The results of the correlational analysis indicate that there was a statistically significant relationship between the two variables. As displayed in Table 16, the correlation between the DLI and SCS was .769 (r=.769, N=162, p=.000). This represents a high positive correlation and was statistically significant at the .01 level of significance.

Table 16: Pearson's Correlation between DLI and SCS

		DLI	SCS
DLI	Pearson Correlation	1	.769**
	Sig. (2-tailed)		.000
	N	162	162
SCS	Pearson Correlation	.769**	1
	Sig. (2-tailed)	.000	
	N	162	162

** Correlation is significant at the .01 level (2-tailed).

Additional analysis was conducted using Pearson's correlation between the various dimensions of the DLI and the SCS to determine if a particular dimension of distributed leadership had a stronger relationship with school culture. As displayed in Table 17, the correlation between the support dimension of DLI and the SCS was .746 (r=.746, N=162,

p=.000). This represents a high positive correlation and was statistically significant at the .01 level of significance. The correlation between the supervision dimension of DLI and the SCS was .489 (r=.489, N=162, p=.000). This represents a moderate positive correlation and was statistically significant at the .01 level of significance. The correlation between the coherent leadership dimension of DLI and the SCS was .667 (r=.667, N=162, p=.000). This represents a high-moderate positive correlation and was statistically significant at the .01 level of significance. Although the supervision dimension had the lowest degree of correlation amongst the dimensions, each of the individual dimensions had a lower correlation to the SCS when compared to the correlation between the DLI and the SCS.

Table 17: Pearson's Correlation between Dimensions of DLI and SCS

		SCS	Support	Supervision	Coherent Leadership
SCS	Pearson Correlation	1	.746**	.489**	.667**
	Sig. (2-tailed)		.000	.000	.000
	N	162	162	162	162
Support	Pearson Correlation	.746**	1	.535**	.687*
	Sig. (2-tailed)	.000		.000	.000
	N	162	162	162	162
Supervision	Pearson Correlation	.489**	.535**	1	.514**
	Sig. (2-tailed)	.000	.000		.000
	N	162	162	162	162
Coherent Leadership	Pearson Correlation	.667**	.687*	.514**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	162	162	162	162

** Correlation is significant at the .01 level (2-tailed).

Further analysis was conducted using Pearson's correlation to determine the relationship between distributed leadership and school culture within the following subgroups: female, male,

more than 20 years teaching experience, and special education/support teacher. Table 18 illustrates that the correlation between the DLI and the SCS for the female subgroup was .771 (r=.771, N=124, p=.000). This represents a high positive correlation and was statistically significant at the .01 level of significance.

Table 18: Pearson's Correlation between DLI and SCS (Female subgroup)

		DLI	SCS
DLI	Pearson Correlation	1	.771**
	Sig. (2-tailed)		.000
	N	124	124
SCS	Pearson Correlation	.771**	1
	Sig. (2-tailed)	.000	
	N	124	124

** Correlation is significant at the .01 level (2-tailed).

Table 19 displays that the correlation between the DLI and the SCS for the male subgroup was .781 (r=.781, N=38, p=.000). This represents a high positive correlation and was statistically significant at the .01 level of significance.

Table 19: Pearson's Correlation between DLI and SCS (Male subgroup)

		DLI	SCS
DLI	Pearson Correlation	1	.781**
	Sig. (2-tailed)		.000
	N	38	38
SCS	Pearson Correlation	.781**	1
	Sig. (2-tailed)	.000	
	N	38	38

** Correlation is significant at the .01 level (2-tailed).

Table 20 displays that the correlation between the DLI and the SCS for the more than 20 years teaching subgroup was .715 (r=.715, N=43, p=.000). This represents a high positive correlation and was statistically significant at the .01 level of significance.

Table 20: Pearson's Correlation between DLI and SCS (More than 20 Years subgroup)

		DLI	SCS
DLI	Pearson Correlation	1	.715**
	Sig. (2-tailed)		.000
	N	43	43
SCS	Pearson Correlation	.715**	1
	Sig. (2-tailed)	.000	
	N	43	43

** Correlation is significant at the .01 level (2-tailed).

Table 21 displays that the correlation between the DLI and the SCS for the special education/support teacher subgroup was .732 (r=.732, N=32, p=.000). This represents a high positive correlation and was statistically significant at the .01 level of significance.

Table 21: Pearson's Correlation between DLI and SCS (Special Ed/Support subgroup)

		DLI	SCS
DLI	Pearson Correlation	1	.732**
	Sig. (2-tailed)		.000
	N	32	32
SCS	Pearson Correlation	.732**	1
	Sig. (2-tailed)	.000	
	N	32	32

** Correlation is significant at the .01 level (2-tailed).

Findings for research question 3. Research Question 3 focused on the relationship between school culture and the self-efficacy of middle school teachers. The results of the correlational analysis indicate that there was a statistically significant relationship between the two variables. As displayed in Table 22, the correlation between the SCS and the TSES was .434 (r=.434, N=162, p=.000). This represents a moderate/low positive correlation and was statistically significant at the .01 level of significance.

Table 22: Pearson's Correlation between SCS and TSES

		SCS	TSES
SCS	Pearson Correlation	1	.434**
	Sig. (2-tailed)		.000
	N	162	162
TSES	Pearson Correlation	.434**	1
	Sig. (2-tailed)	.000	
	N	162	162

** Correlation is significant at the .01 level (2-tailed).

Further analysis was conducted using Pearson's correlation to determine the relationship between school culture and teacher self-efficacy within the following subgroups: female, male, more than 20 years teaching experience, and special education/support teacher. Table 23 illustrates that the correlation between the SCS and the TSES for the female subgroup was .483 (r=.483, N=124, p=.000). This represents a moderate positive correlation and was statistically significant at the .01 level of significance. The results of the analysis of the male subgroup for the relationship between the SCS and the TSES were not statistically significant.

Table 23: Pearson's Correlation between SCS and TSES (Female subgroup)

		SCS	TSES
SCS	Pearson Correlation	1	.483**
	Sig. (2-tailed)		.000
	N	124	124
TSES	Pearson Correlation	.483**	1
	Sig. (2-tailed)	.000	
	N	124	124

** Correlation is significant at the .01 level (2-tailed).

Table 24 displays that the correlation between the SCS and the TSES for the more than 20 years teaching subgroup was .433 (r=.433, N=43, p=.004). This represents a low-moderate positive correlation and was statistically significant at the .01 level of significance.

Table 24: Pearson's Correlation between SCS and TSES (More than 20 Years subgroup)

		SCS	TSES
SCS	Pearson Correlation	1	.433**
	Sig. (2-tailed)		.004
	N	43	43
TSES	Pearson Correlation	.433**	1
	Sig. (2-tailed)	.004	
	N	43	43

** Correlation is significant at the .01 level (2-tailed).

Table 25 displays that the correlation between the SCS and the TSES for the special education/support teacher subgroup was .548 (r=.548, N=32, p=.001). This represents a moderate positive correlation and was statistically significant at the .01 level of significance.

Table 25: Pearson's Correlation between SCS and TSES (Special Ed/Support subgroup)

		SCS	TSES
SCS	Pearson Correlation	1	.548**
	Sig. (2-tailed)		.001
	N	32	32
TSES	Pearson Correlation	.548**	1
	Sig. (2-tailed)	.001	
	N	32	32

** Correlation is significant at the .01 level (2-tailed).

Summary

Chapter 4 presented an analysis of the quantitative data for this correlational study designed to measure the relationships between distributed leadership, school culture, and teacher self-efficacy. Descriptive data were presented and, prior to writing, steps taken to ensure the reliability of the results from each of the survey instruments. The results of the investigation indicate that there is a statistically significant relationship between distributed leadership and teacher self-efficacy with a moderate/low positive correlation. There is also a statistically

significant relationship between distributed leadership and school culture with a high positive correlation. Finally, it was determined that there is a statistically significant relationship between school culture and teacher self-efficacy with a moderate/low positive correlation.

Several additional results emerged from the study. First, the correlation between distributed leadership and school culture was much stronger than any of the other relationships (which were moderate/low). Second, when examining the specific dimensions of distributed leadership, each dimension had a statistically significant relationship to both school culture and teacher self-efficacy, but the supervision dimension had a relationship to school culture and teacher self-efficacy that was of a lesser strength than the other dimensions. Finally, of the correlational analyses of the subgroups that were statistically significant, each of the subgroups performed within +/- .1 on the size or correlation ordinal scale, with the exception of the special education/support teacher subgroup for question 3–this subgroup had a correlation coefficient .114 greater than the total population resulting in a moderate, positive relationship between school culture and teacher self-efficacy. The minimal differences in correlation across the sample (n=162) and subgroup samples for each research question confirms that no particular subgroup lead to an inflated correlation coefficient. Chapter 5 discusses the implications of this study and recommendations for further research in distributed leadership, school culture, and teacher self-efficacy as a result of the findings of this study.

Chapter 5

Conclusions and Recommendations

Introduction

Chapter 5 is divided into five sections. The first section reintroduces the purpose of the study; the second presents a summary of the study; the third discusses the findings and conclusions of the study as they relate to the literature and previous research; the fourth discusses the implications for policy and practice; and the final section discusses the recommendations for further research.

School leaders today face unprecedented challenges due to rising expectations, limited funding, and the task of preparing students for a world that is changing rapidly due to technological innovation and globalization (OECD, 2009). Principals are expected to be more than good managers, they are increasingly being viewed as the key to large scale reforms and educational outcomes (OECD, 2009). A school leader is more likely to experience success if they focus their role on promoting interactions between stakeholders that are consistent with best practice rather than focusing on their sole actions as a leader (Spillane, 2006).

The structure of a large middle school, with characteristics such as interdisciplinary teaming, common planning time, departmental specialization, extra-curricular activities, and flexible scheduling requires a principal to intentionally construct a framework where people, materials, and organizational structures work in concert for a common cause (Spillane, 2006). A principal failing to construct such a framework and relying instead on a traditional top-down, authoritative structure has the potential to create an environment in which the school leader becomes overwhelmed by all-consuming tasks and distracted from their professional responsibilities (Beisser, Peters, and Thacker, 2014).

Through the implementation of a distributive leadership framework, a principal has the ability to share responsibilities with qualified staff while promoting a building-wide culture of trust that empowers teachers. Expanding decision making authority to teachers provides opportunities to improve school climate, teacher efficacy, and student achievement (Roney, Wahlstrom, and Louis, 2008). There is a relationship between school leadership, teachers' views of the functioning of an organization, and their sense of self-efficacy. Research has shown that a distributive perspective plays a key role in influencing school climate, teacher capacities, and motivation (Feng, Hao, Iles, and Brown, 2017; Coladarci, 1992).

Summary of the Study

This study focused on the relationship between distributed leadership, school culture, and teacher self-efficacy at the middle school level. Although Davis' (2014) study established a significant relationship between these variables at the elementary school level, research had yet to be conducted to determine the relationship between these variables at the middle school level. This study was guided by the following research questions:

- **Question 1.** What is the relationship between **distributive leadership** and the **self-efficacy** of teachers in suburban public middle schools in Central New Jersey, as measured by the Distributed Leadership Inventory (DLI) and Teacher Self-Efficacy Scale (TSES)?
- **Question 2.** What is the relationship between **distributed leadership** and **school culture** in suburban public middle schools in Central New Jersey, as measured by the Distributed Leadership Inventory (DLI) and School Culture Survey (SCS)?

- **Question 3.** What is the relationship between **school culture** and the **self-efficacy** of teachers in suburban public middle schools in Central New Jersey, as measured by the School Culture Survey (SCS) and Teacher Self-Efficacy Scale (TSES)?

This study was conducted across five middle schools within Middlesex and Mercer Counties in New Jersey. The participants for this study were teachers of students in Grades 6–8 from each of these five schools. The 162 participants for the study completed all of the questions on the Distributed Leadership Inventory (DLI), School Culture Survey (SCS), and Teacher Self-Efficacy Scale (TSES), which were combined into one Likert-type survey that was accessible through a SurveyMonkey link. Demographic information was collected from the participants so that additional correlational analyses could be conducted based on the following demographic groups: female, male, more than 20 years teaching experience, and special education/support teacher.

Findings and Conclusions

Research question 1. Research Question 1 focused on the relationship between the three dimensions of distributed leadership and the self-efficacy of middle school teachers. The results of the correlational analysis indicated that there was a statistically significant relationship between the two variables (r=.405). This is a moderate/low positive correlation. When additional correlational analyses were run between each dimension of distributed leadership and teacher self-efficacy, statistically significant positive correlations were found but with lower degrees of correlation–specifically within the supervision dimension, which showed little or no correlation. When conducting correlational analyses based on the subgroups (female, male, more than 20 years teaching, and special education/support teacher), all subgroups yielded statistically

significant results, except the male subgroup. Each subgroup that had a statistically significant relationship between distributed leadership and teacher self-efficacy displayed a positive correlation. The more than 20 years teaching and special education/support teacher subgroups resulted in low/moderate positive correlations, while a stronger degree of moderate positive correlation was found within the female subgroup.

When the results of Research Question 1 were compared with the results of Davis' (2014) study, which conducted a similar correlational analysis with elementary school teachers in Arizona, common trends emerged. In both studies, it was determined that the inclusion of a distributed leadership model was associated with higher levels of teacher self-efficacy. Davis' (2014) study also found a statistically significant relationship between distributive leadership and teacher self-efficacy with positive correlations. Although both studies revealed similar trends in the degree of correlation for Research Question 1 (when taking into account the different dimensions of distributed leadership), the overall strength of correlations in this study of middle school teachers was stronger than the strength of correlations found in Davis' (2014) study of elementary school teachers. Both studies found that the supervision dimension of distributed leadership had little or no correlation with teacher self-efficacy. For the remaining dimensions of distributive leadership and overall distributed leadership, Davis' (2014) study found a low degree of correlation. Although this study of middle school teachers also resulted in a low degree of correlation when conducting the same analysis, the degree of correlation was stronger, revealing itself to be at a low/moderate level.

While there is no peer reviewed literature that supports this specific research question, there is significant research published on the strong, positive influence school leaders have on teacher motivation, commitment, and their beliefs about the supportiveness of their working

conditions (Calik, Sezgin, Kavgaci, and Kilic, 2012; Coleman, and Schlichting, 2007; Kurt, 2016; Leithwood, Harris, and Hopkins, 2008; Roney, Wahlstrom and Louis, 2008). Further research has revealed the impact of the principal on the building of leadership capacity within teachers to be modest with greater impact from less principal-centric approaches that rest within the overall structure of the organization (Copeland, 2003; Kurt, 2016; Mayrowetz, 2008).

Mayrowetz (2008) asserts that distributive leadership shows the most promise in leading school-wide improvement, and Kurt's (2016) research shows that self-efficacy positively affects teacher leadership behavior. Research has also shown the instructional leadership behaviors of a principal to have a positive and significant effect on teachers' self-efficacy (Calik, Sezgin, Kavgaci, and Kilic, 2012). A focus on self-efficacy through a distributed approach by school leaders can fuel teacher learning capacity and motivate teachers to assume leadership roles that promote a healthy organizational structure (Kurt, 2016; Roney, Coleman, and Schlichting, 2007).

Research question 2. Research Question 2 examined the relationship of the three dimensions of distributed leadership and school culture in suburban middle schools. The results of the correlational analysis indicated that there was a statistically significant relationship between the two variables (r=.769). This is a high positive correlation. When additional correlation analyses were run between each dimension of distributed leadership and school culture, statistically significant positive correlations were found. The analysis of the support and coherent leadership dimensions showed strong correlations but to a lesser extent when compared to the whole distributed leadership inventory. The most significant difference was in the supervision dimension, which resulted in a lesser moderate correlation. When conducting correlational analyses on the subgroups (female, male, more than 20 years teaching, and special

education/support teacher), all subgroups yielded statistically significant results with high positive correlations.

When the results of Research Question 2 for this study were compared with the results of Davis' (2014) study of elementary school teachers, it was determined that there was a statistically significant and strong positive correlation between distributed leadership and school culture at both the elementary and middle school levels. This study resulted in a correlation of r=.769 for middle school teachers and Davis' (2014) study resulted in a correlation of r=.70.

In support of the results for Research Question 2, current research shows that school principals have a tremendous impact on the establishment of the various components that make up the characteristics of the culture of their school (Chance et al., 1996). Within the distributive model, effective principals establish structures that promote the conditions that allow staff to be creative and build the relationships required to grow professionally (Bolman and Deal, 2013; Park, 2012). The distributive leadership model emphasizes the role of principals as capacity builders rather than as instructional leaders. Although high performing principals are considered instructional leaders, it is their ability to lead collaboratively, build a culture of learning, and establish respect, trust, and professional satisfaction amongst teachers (while at the same time reforming instructional practices in a way that has a significant impact on student learning) that has the strongest impact (Day, 2005; Hoy, Tarter, and Hoy, 2006).

The literature concerning Research Question 2 further revealed that bureaucratic rule-following has a negative effect on teacher morale and collaboration (Devos, 2000). The most positive relationship between school leadership and school culture exists where the educational leader's concern is not limited to lower-level managerial tasks but instead focuses on instructional innovation and the well-being of students (Devos, 2000). Teachers recognize the

culture of their school to be positive, innovative, and organizationally healthy when the principal is perceived to be an initiator rather than a responder, decision making authority is expanded to teachers in areas they are qualified to lead in, and–regardless of the level of education and expertise of the principal–teachers feel their autonomy and creativity are not being disrupted (Bolman and Deal, 2013; Lashway, 2003; Park, 2012; Roney, Coleman, and Schlichting, 2007).

Research question 3. Research Question 3 examined the relationship between school culture and the self-efficacy of middle school teachers. The correlation analysis found a statistically significant relationship between the two variables (r=.434). This is a moderate/low positive correlation. When conducting correlation analyses based on the subgroups (female, male, more than 20 years teaching, and special education/support teacher), all subgroups yielded statistically significant results with the exception of the male subgroup. Each subgroup that had a statistically significant relationship between school culture and teacher self-efficacy displayed a positive correlation. The more than 20 years teaching subgroup resulted in a low/moderate strength correlation with only a .01 difference in degree from the total sample. A stronger degree of moderate correlation was found within the female and special education/support teacher subgroups with the strongest correlation found within special education/support teachers.

When the results of Research Question 3 for this study were compared with the results of Davis' (2014) study of elementary school teachers, it was determined that there was a statistically significant, positive correlation between school culture and teacher self-efficacy at both the elementary and middle school levels. This study resulted in a correlation of r=.434 for middle school teachers, which is a moderate/low correlation. Davis' (2014) study resulted in a correlation of r=.54 for elementary school teachers, which is a moderate correlation. In comparing the results of both studies regarding the correlation analysis for this aspect, it can be

concluded that there is a stronger correlation between school culture and teacher self-efficacy at the elementary level than at the middle school level.

Peer reviewed literature that relates directly to the relationship between school culture and teacher self-efficacy is limited. Established research from Coladarci (1992) asserts that the features of a school's organization that promote a teacher's self-efficacy will also promote a teacher's commitment to the organization and to teaching. Blase and Blase (1999) stress the importance of autonomy and choice in facilitating teachers' to enhance their classroom performance. This can present itself in the form of self-analysis, monitoring progress toward personal goals, and implementing instructional changes–all of which are part of the self-assessment of personal characteristics relevant to work performance (Bandura, 1977). Recent research on self-efficacy and job engagement and satisfaction supports self-efficacy theory claims that there is a relationship between one's perceived self-efficacy and how opportunities and impediments associated with the culture of a school are received (Bandura, 2006; Skaalvik and Skaalvik, 2014).

Implications for Policy and Practice

This study focused on the relationship between distributed leadership, school culture, and teacher self-efficacy at the middle school level. The results of the study show a statistically significant, positive relationship between each of these variables. The relationship between distributed leadership and school culture proved to have the strongest correlation among the three variables (r=.769). Based on the results of this study, school leaders should examine the leadership practices that are most associated with distributive leadership and assess their own leadership practices in comparison with this approach. This study, as well as Davis' (2014) study, clearly demonstrate a strong correlation between distributive leadership and school

culture. At the time of this study, many school communities are facing challenges associated with inadequate funding; budgetary constraints; high-stakes, punitive standardized testing policies; and a volatile political atmosphere. This creates the ideal conditions for teachers to come to believe that they are unappreciated, under compensated, and lack the freedom to deliver instruction in an effective and engaging manner, ultimately leading to a poor school culture. Teachers perform their duties at the highest levels when they believe they are empowered, free to create, and can function with a reasonable sense of autonomy. These are conditions clearly associated with a distributive leadership model and positive school culture.

The results of this study and the supporting literature show the importance of principals empowering teachers to fill leadership space in areas in which they are qualified and confident. Power is not a scarce resource, and when a school leader empowers other leaders around them, their power is not diminished. Educational leadership graduate programs, the mentoring process for new administrators, and the tools used to evaluate school leaders should all incorporate aspects of distributive leadership. This would assist school leaders in fulfilling their potential to create school environments in which teachers are empowered to make decisions and display leadership in the best interest of their students.

Additionally, this study points out the weak or diminished correlations in the relationship between the supervision dimension of the DLI and the SCS and TSES. When examining the relationship between the supervision dimension of the DLI and the TSES there was little or no evidence of correlation (r=.200). For the relationship between the supervision dimension of the DLI and the SCS (r=.489), a moderate correlation was found, and a strong correlation was found in the analysis of the relationship between the different dimensions of DLI and the SCS. The supervision dimension of the DLI focuses on the performance evaluation of staff and the

summative and formative evaluation of teachers. The evaluation dimension showed no evidence of impacting a teacher's self-efficacy and had a much lower degree of correlation to school culture than to the support and coherent leadership team dimensions.

This study takes into account the professional and leadership needs of different subgroups within the population of a teaching staff of a large middle school. In addition to the correlational analysis conducted between the variables of distributed leadership, school culture, and teacher self-efficacy among all study participants, a correlational analysis was run for the following subgroups: female, male, more than 20 years teaching experience, and special education/support teacher. This additional analyses not only confirmed that no subgroup was significantly inflating the correlational coefficients, it also revealed potential trends associated with teacher demographics. A stronger correlation between distributed leadership and teacher self-efficacy within the female subgroup was found compared to the other subgroups. There were also stronger correlations between school culture and teacher self-efficacy within the female and special education/support teacher subgroups compared to the other subgroups. Although this aspect of the study is limited to simple correlations for subgroups of varying sample sizes, it is important for leaders of large complex organizations such as schools to understand the diverse needs of their staff in order to provide meaningful professional development that is empowering, provides leadership opportunities, and is responsive to the culture of the school. This study and the current literature support this philosophy of avoiding the characteristics associated with a one size fits all approach.

Recommendations for Further Research

Although there is a significant amount of research and literature regarding distributed leadership, school culture and teacher self-efficacy, there are a limited number of studies that

examine the correlational relationship between these variables. This continues to be a promising area for further research and the recommendations for future research from this study are as follows:

1. This topic would benefit from further replication of this study in order to expand and create larger and more diverse samples. This study was conducted at the middle school level and Davis' (2014) study was conducted at the elementary level. Research on the relationship between distributed leadership, school culture, and teacher self-efficacy has yet to be conducted at the secondary level. The results of this research would be further enhanced by conducting research in a diverse range of community settings, including private and parochial schools.
2. Further research is needed regarding the relationship between distributive leadership, school culture, and teacher self-efficacy amongst the subgroups of this study (as well as additional subgroups that may be identified in future research). This study revealed interesting demographic trends that need further examination through more powerful analyses.
3. Replicating this study through a mixed-methods approach would yield additional data that would lead to an enhanced interpretation and understanding of participants' perceptions of distributed leadership, school culture, and teacher self-efficacy.
4. The results of this study warrant further examination of the impact of established evaluation processes on the self-efficacy of teachers and school culture. Specifically, research should focus on the efforts school leaders place on supporting teachers and maintaining a coherent leadership team compared to more established, traditional methods of evaluation of teachers and staff.

5. Future studies should collect data at different points in the school year to assess the relationships between the variables of distributed leadership, school culture and teacher self-efficacy. For example, the same population of teachers should be surveyed in the fall and then in the spring of the same school year to assess if there is a significant change in the relationship between the variables at different points in time.
6. This study focused on teacher perceptions of distributed leadership, school culture and teacher self-efficacy. Further research on the relationship between these variables from the perspective of school leaders would add to the growing body of research on this topic.

Conclusion

It is common for educational literature to depict systems where policy, school administration, and classroom instruction are loosely coupled or decoupled from one another when it comes to the core technical work of instruction (Spillane and Kenney, 2012). This study identified significant relationships between distributed leadership, school culture, and teacher self-efficacy that supports the need for school leadership to adopt a more holistic framework for leading large complex organizations such as middle schools. As the distributive leadership framework continues to evolve and be defined in the school setting, it is important for principals to understand that both formal and informal leaders within a school need to build upon one another's contributions to best practice in leadership and instruction. This way, these practices will be stretched over leaders rather than simply being a function of one's individual actions (Spillane, 2006).

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Appendix A

Letter of Solicitation

Dear Teacher,

My name is Anthony DeMarco and I would like to invite you to participate in a study of the relationship between leadership, school culture, and teacher confidence at the middle school level. I am currently enrolled at Seton Hall University in the Executive Ed. D. Program. I am conducting this study for my doctoral dissertation.

The purpose of this study is to examine the relationships between distributive leadership, school culture, and teacher self-efficacy. Approximately 600 middle school teachers will have the opportunity to participate in this study.

Your participation in this study will involve the completion of a survey that will take 15-20 minutes to complete. Each participant will have the opportunity complete the 73 question survey using the online survey tool SurveyMonkey.

The survey will ask you to indicate the degree to which each statement best describes the conditions at your school. The survey questions will address the following topics:

- School leadership and management style
- School culture
- Teacher confidence

Participation in this study is completely voluntary. You may choose not to participate in the entire study, not answer any single question or any group of questions. If you decide not to complete the survey once you begin, you may simply close the SurveyMonkey page on your web browser.

In order to maintain the confidentiality of participant records, all data will be maintained in a locked, secure file cabinet accessible only by the researcher. There is always a possibility of online data being hacked. In order to maintain the confidentiality of electronic records, SurveyMonkey data stored during the course of the study will be accessible by a password known only to the researcher. Data will be kept for a period of at least three years after which it will be destroyed including all electronic files.

If you have any questions regarding your rights as a participant and/or concerns about the study, please do not hesitate to contact:

- Researcher-Anthony DeMarco at email: anthony.demarco1@student.shu.edu
- Faculty Advisor- Dr. Daniel Gutmore at email: daniel.gutmore@shu.edu
- Seton Hall University Institutional Review Board at email: irb@shu.edu

Thank you for your time and consideration in participating in this dissertation research.

Sincerely,

Anthony DeMarco
anthony.demarco1@student.shu.edu

Appendix B

Distributed Leadership Inventory

Distributed Leadership Inventory

Indicate the degree to which each statement describes the Leadership/Management team (principal, the assistant principal(s), and the teacher leader) within your school. **Please use the following scale:** 1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree	*Strongly Disagree*	*Disagree*	*Undecided*	*Agree*	*Strongly Agree*
SUPPORT…					
1. premises a long-term vision	①	②	③	④	⑤
2. debates the school vision	①	②	③	④	⑤
3. compliments teachers	①	②	③	④	⑤
4. helps teachers	①	②	③	④	⑤
5. explains his/her reason for criticism to teachers	①	②	③	④	⑤
6. is available after school to help teachers when assistance is needed	①	②	③	④	⑤
7. looks out for the personal welfare of teachers	①	②	③	④	⑤
8. encourages me to pursue my own goals for professional learning	①	②	③	④	⑤
9. encourages me to try new practices consistent with my own interests	①	②	③	④	⑤
10. provides organizational support for teacher interaction	①	②	③	④	⑤
SUPERVISION…					
11. evaluates the performance of the staff	①	②	③	④	⑤
12. is involved in summative evaluation of teachers	①	②	③	④	⑤
13. is involved in formative evaluation of teachers	①	②	③	④	⑤
COHERENT LEADERSHIP TEAM					
14. There is a well-functioning leadership team in our school	①	②	③	④	⑤
15. The leadership team tries to act as well as possible	①	②	③	④	⑤
16. The leadership team supports the goals we like to attain with our school	①	②	③	④	⑤
17. All members of the leadership team work in the same strain on the school's core objectives	①	②	③	④	⑤
18. In our school the right man sits on the right place, taken the competencies into account	①	②	③	④	⑤
19. Members of the management team/I divide their time properly	①	②	③	④	⑤
20. Members of the leadership team/I have clear goals	①	②	③	④	⑤
21. Members of the leadership team/I know which tasks they/I have to perform	①	②	③	④	⑤
22. The leadership team is willing to execute a good idea	①	②	③	④	⑤
23. It is clear where members of the leadership team are authorized to do	①	②	③	④	⑤

Appendix C

Permission to Use the Distributive Leadership Inventory

Re: Permission to use the Distributive Leadership Inventory

Anthony L Demarco

Mon 2/5/2018 8:09 AM

To:Geert Devos <geert.devos@ugent.be>;

Thank you, Dr. Devos.

I will certainly forward you the summary of findings at the conclusion of the study.

Anthony DeMarco

From: Geert Devos <geert.devos@ugent.be>
Sent: Sunday, February 4, 2018 11:22:55 AM
To: Anthony L Demarco
Subject: Re: Permission to use the Distributive Leadership Inventory

Dear Anthony,
Thank you for your request. I give permission to use the DLI. I would appreciate to receive a summery of the findings and conclusion of your study.

Kind regards,
Geert Devos

Op 3/02/2018 om 20:45 schreef Anthony L Demarco:

> Dear Dr. Devos,
>
> I writing to request permission to utilize the Distributive Leadership Inventory (DLI) for my research. I am currently enrolled at Seton Hall University in their Executive Ed. D. Program. The topic of my dissertation is The Relationship Between Distributive Leadership, School Culture, and Teacher Self-Efficacy at the Middle School Level. My study builds on the previous work of Mendi Davis' (2014) dissertation where she conducted similar research at the elementary school level. The purpose of this correlational research study is to establish whether and to what extent there is a relationship between distributed leadership, school culture, and teacher self-efficacy. The focus of this study will be teachers in public middle schools in central New Jersey.
>
> The study will collect quantitative data utilizing the following three instruments, the Distributed Leadership Inventory (DLI), the School Culture Survey (SCS), and Teacher Self-Efficacy Scale (TSES). Participants will complete a survey utilizing the online survey tool SurveyMonkey. For this research, a purposeful sampling strategy will be conducted, and the characteristics of the sample include being a certified teacher within the middle school(s) of the targeted school districts. The research study involves public school employees, so permission from the superintendent from each district will be obtained.
>
> The participants for this study will be public school teachers of students in grades 6-8 from selected middle schools in central New Jersey. Approximately 600 middle school teachers will have the opportunity to participate in this study via the survey. The survey is optional and the number of

participants will be determined by the responses received by the researcher. Participants will be provided the contact information for the researcher, faculty advisor, and Seton Hall Institutional Review Board.

All information obtained in this study will be strictly confidential. The results of this research study may be used in reports, presentations, and publications, but the researcher will not identify participants individually or collectively and only aggregate data will be published. Study participants will complete an informed consent waiver that will reiterate that the research will remain anonymous, voluntary, and confidential.

At the conclusion of the study and dissertation defense, it would be my pleasure to share the results of the study via a full copy or a summary of the findings and conclusion, whichever you prefer.

Thank you for your time and consideration,

Anthony L. DeMarco

Appendix D

School Culture Survey

School Culture Survey

Indicate the degree to which each statement describes conditions in your school. **Please use the following scale:** 1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree		*Strongly Disagree*	*Disagree*	*Undecided*	*Agree*	*Strongly Agree*
1.	Teachers utilize professional networks to obtain information and resources for classroom instruction.	①	②	③	④	⑤
2.	Leaders value teachers' ideas.	①	②	③	④	⑤
3.	Teachers have opportunities for dialogue and planning across grades and subjects.	①	②	③	④	⑤
4.	Teachers trust each other.	①	②	③	④	⑤
5.	Teachers support the mission of the school.	①	②	③	④	⑤
6.	Teachers and parents have common expectations for student performance.	①	②	③	④	⑤
7.	Leaders in this school trust the professional judgments of teachers.	①	②	③	④	⑤
8.	Teachers spend considerable time planning together.	①	②	③	④	⑤
9.	Teachers regularly seek ideas from seminars, colleagues, and conferences.	①	②	③	④	⑤
10.	Teachers are willing to help out whenever there is a problem.	①	②	③	④	⑤
11.	Leaders take time to praise teachers that perform well.	①	②	③	④	⑤
12.	The school mission provides a clear sense of direction for teachers.	①	②	③	④	⑤
13.	Parents trust teachers' professional judgments.	①	②	③	④	⑤
14.	Teachers are involved in the decision-making process.	①	②	③	④	⑤
15.	Teachers take time to observe each other teaching.	①	②	③	④	⑤
16.	Professional development is valued by the faculty.	①	②	③	④	⑤
17.	Teachers' ideas are valued by other teachers.	①	②	③	④	⑤
18.	Leaders in our school facilitate teachers working together.	①	②	③	④	⑤
19.	Teachers understand the mission of the school.	①	②	③	④	⑤
20.	Teachers are kept informed on current issues in the school.	①	②	③	④	⑤
21.	Teachers and parents communicate frequently about student performance.	①	②	③	④	⑤
22.	My involvement in policy or decision making is taken seriously.	①	②	③	④	⑤

Indicate the degree to which each statement describes conditions in your school. **Please use the following scale:** 1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree	*Strongly Disagree*	*Disagree*	*Undecided*	*Agree*	*Strongly Agree*

Appendix E

Permission to Use the School Culture Survey

RE: Request to use SCS

Steve Gruenert <Steve.Gruenert@indstate.edu>

Thu 2/8/2018 10:30 AM

To:Anthony L Demarco <anthony.demarco1@student.shu.edu>;

Cc:ValentineJ@missouri.edu <ValentineJ@missouri.edu>; Daniel Gutmore <Daniel.Gutmore@shu.edu>;

Hello.

Thank you very much for taking the time to complete our protocol, thus maintaining professional integrity of the instrument. You are welcome to use the instrument as you have indicated in your response.

Good luck.

From: Anthony L Demarco [mailto:anthony.demarco1@student.shu.edu]
Sent: Wednesday, February 07, 2018 3:59 PM
To: Steve Gruenert
Cc: ValentineJ@missouri.edu; Daniel Gutmore
Subject: Re: Request to use SCS

Hello Dr. Gruenert,

Thank you for the quick reply and for the SCS resources. Attached you will find my formal request to utilize the SCS for my dissertation. If there is any further information you need please let me know. I have cc'ed Dr. Valentine as well as my dissertation advisor, Dr. Gutmore on this email.

Thank you for your time and consideration.

Anthony DeMarco

From: Steve Gruenert <Steve.Gruenert@indstate.edu>
Sent: Wednesday, February 7, 2018 10:46 AM
To: Anthony L Demarco
Cc: Steve Gruenert
Subject: Request to use SCS

Hello.

I will be glad to provide you with permission to use the School Culture Survey per the following explanations.

I am attaching and explanation of information needed to obtain permission to use the SCS. Much of it will cut and paste from what you already sent. See the first attachment among those I am sending.

I will look for your request in the coming days.

Thanks!

Appendix F

Teacher Self-Efficacy Scale

Teacher Self-Efficacy Scale

Indicate the degree to which each statement describes conditions in your school. **Please use the following scale:** 1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree		*Strongly Disagree*	*Disagree*	*Undecided*	*Agree*	*Strongly Agree*
1.	I am convinced that I am able to successfully teach all relevant subject content to even the most difficult students.	①	②	③	④	⑤
2.	I know that I can maintain a positive relationship with parents even when tensions arise.	①	②	③	④	⑤
3.	When I try really hard, I am able to reach even the most difficult students.	①	②	③	④	⑤
4.	I am convinced that, as time goes by, I will continue to become more and more capable of helping to address my students' needs.	①	②	③	④	⑤
5.	Even if I get disrupted while teaching, I am confident that I can maintain my composure and continue to teach well.	①	②	③	④	⑤
6.	I am confident in my ability to be responsive to my students' needs even if I am having a bad day.	①	②	③	④	⑤
7.	If I try hard enough, I know that I can exert a positive influence on both the personal and academic development of my students.	①	②	③	④	⑤
8.	I am convinced that I can develop creative ways to cope with system constraints (such as budget cuts and other administrative problems) and continue to teach well.	①	②	③	④	⑤
9.	I know that I can motivate my students to participate in innovative projects.	①	②	③	④	⑤
10.	I know that I can carry out innovative projects even when I am opposed by skeptical colleagues.	①	②	③	④	⑤

Appendix G

Permission to Use the Teacher Self-Efficacy Scale

Do I need permission to use the general perceived self-efficacy (GSE) scale?

You do not need our explicit permission to utilize the scale in your research studies. We hereby grant you permission to use and reproduce the General Self-Efficacy Scale for your study, given that appropriate recognition of the source of the scale is made in the write-up of your study.

The main source is: Schwarzer, R., & Jerusalem, M. (1995). Generalized Self- Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, Measures in health psychology: A user's portfolio. Causal and control beliefs (pp. 35-37). Windsor, England: NFER-NELSON.

An additional source for the German version is: Schwarzer, R., & Jerusalem, M. (Eds.). (1999). Skalen zur Erfassung von Lehrer- und Schülermerkmalen: Dokumentation der psychometrischen Verfahren im Rahmen der Wissenschaftlichen Begleitung des Modellversuchs Selbstwirksame Schulen. Berlin: Freie Universität Berlin.

Appendix H

Letters Granting Permission to Conduct Research

[redacted] PUBLIC SCHOOLS

[redacted]

February 23, 2018

Mr. Anthony L. DeMarco
Principal
[redacted]

Dear Mr. DeMarco,

You have been granted permission to conduct the research titled "The Relationship Between Distributive Leadership, School Culture, and Teacher Self-Efficacy at the Middle School Level" within our district for the purpose of completing your dissertation at Seton Hall University.

Sincerely,

[redacted]
Superintendent of Schools

[redacted]

[redacted] Public Schools
[redacted]

February 27, 2018

Mr. Anthony L. DeMarco
[redacted]

Re: Dissertation Proposal Approval

Dear Mr. DeMarco:

I am in receipt of your request to conduct a research survey in preparation for presentation of your dissertation proposal to Seton Hall University's Institutional Review Board.

Please accept this letter as my approval for you to conduct your research in [redacted] Township Public Schools. I wish you much success as you pursue your Doctorate in Education.

Sincerely,

[redacted]

Superintendent of Schools

DCC:pl

[redacted]

[redacted]

SCHOOL PERMISSION TO CONDUCT RESEARCH

February 16, 2018

Dear Institutional Review Board:

Anthony DeMarco has been granted permission to conduct the research titled "The Relationship Between Distributive Leadership, School Culture, and Teacher Self-Efficacy at the Middle School Level" within our district for the purpose of completing your dissertation at Seton Hall University.

Sincerely,

[redacted]

Appendix I

Distributed Leadership, School Culture, and Teacher Self-Efficacy Survey

The Relationship Between Distributive Leadership, School Culture, and Teacher Self-Efficacy at the Middle School Level

Welcome! Thank you for choosing to participate in this survey.

In order to maximize the effectiveness of the study, please choose the answer that best describes your professional and demographic background.

* 1. Which school are you affiliated with?

- ◯ [redacted] Middle School
- ◯ [redacted] Middle School
- ◯ [redacted] Middle School
- ◯ [redacted] Middle School
- ◯ [redacted] Middle School

2. Which best describes your role within your school?

- ◯ General Education Core Subject Teacher (IE: Math, ELA, Science, Social Studies)
- ◯ Special Education or Support Skills Teacher
- ◯ Related Arts/Encore Teacher (IE: Music, Art, PE, World Language, Technology)
- ◯ Student Personnel Services (IE: Counselor, CST, Nurse)

3. Which grade level are you assigned?

- ◯ 5th Grade
- ◯ 6th Grade
- ◯ 7th Grade
- ◯ 8th Grade
- ◯ I work with students from multiple grade levels.

4. How long have you been working as an educator?

- ◯ 0-5 years
- ◯ 6-10 years
- ◯ 11-20 years
- ◯ More than 20 years

5. What is your gender?

◯ Female

◯ Male

The Relationship Between Distributive Leadership, School Culture, and Teacher Self-Efficacy at the Middle School Level

Distributive Leadership Inventory developed by Hulpia, Devos, & Rossell (2009)

Indicate the degree to which the leadership/management team within your school is involved in the following statements.

SUPPORT...

1. champions a long-term vision

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

2. debates the school vision

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

3. compliments teachers

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

4. helps teachers

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

5. explains his/her reason for criticism to teachers

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

6. is available after school to help teachers when assistance is needed

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

7. looks out for the personal welfare of teachers

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

8. encourages me to pursue my own goals for professional learning

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

9. encourages me to try new practices consistent with my own interests

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

10. provides organizational support for teacher interaction

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

SUPERVISION...

11. evaluates the performance of the staff

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

12. is involved in summative evaluation of teachers

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

13. is involved in formative evaluation of teachers

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

COHERENT LEADERSHIP TEAM

14. There is a well-functioning leadership team in our school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

15. The leadership team tries to act as well as possible.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

16. The leadership team supports the goals we like to attain with our school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

17. All members of the leadership team work together on the school's core objectives.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

18. In our school, the right person sits in the right place, taking competencies into account.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

19. Members of the management team divide their time properly.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

20. Members of the management team have clear goals.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

21. Members of the management team know which tasks they have to perform.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

22. The leadership team is willing to execute a good idea.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

23. It is clear what members of the leadership team are authorized to do.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

The Relationship Between Distributive Leadership, School Culture, and Teacher Self-Efficacy at the Middle School Level

School Culture Survey developed by Gruenert and Valentine (1998)

Indicate the degree to which each statement describes conditions in your school.

1. Teachers utilize professional networks to obtain information and resources for classroom instruction.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

2. Leaders value teachers' ideas.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

3. Teachers have opportunities for dialogue and planning across grades and subjects.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

4. Teachers trust each other.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

5. Teachers support the mission of the school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

6. Teachers and parents have common expectations for student performance.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

7. Leaders in this school trust the professional judgments of teachers.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

8. Teachers spend considerable time planning together.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

9. Teachers regularly seek ideas from seminars, colleagues, and conferences.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

10. Teachers are willing to help out whenever there is a problem.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

11. Leaders take time to praise teachers that perform well.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

12. The school mission provides a clear sense of direction for teachers.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

13. Parents trust teachers' professional judgments.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

14. Teachers are involved in the decision-making process.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

15. Teachers take time to observe each other teaching.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

16. Professional development is valued by the faculty.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

17. Teachers' ideas are valued by other teachers.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

18. Leaders in our school facilitate teachers working together.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

19. Teachers understand the mission of the school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

20. Teachers are kept informed on current issues in the school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

21. Teachers and parents communicate frequently about student performance.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

22. My involvement in policy or decision making is taken seriously.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

23. Teachers are generally aware of what other teachers are teaching.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

24. Teachers maintain a current knowledge base about the learning process.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

25. Teachers work cooperatively in groups.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

26. Teachers are rewarded for experimenting with new ideas and techniques.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

27. The school mission statement reflects the values of the community.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

28. Leaders support risk-taking and innovation in teaching.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

29. Teachers work together to develop and evaluate programs and projects.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

30. The faculty values school improvement.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

31. Teaching performance reflects the mission of the school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

32. Administrators protect instruction and planning time.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

33. Teaching practice disagreements are voiced openly and discussed.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
○	○	○	○	○

34. Teachers are encouraged to share ideas.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

35. Students generally accept responsibility for their schooling. For example, they engage mentally in class and complete homework assignments.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

The Relationship Between Distributive Leadership, School Culture, and Teacher Self-Efficacy at the Middle School Level

Teacher Self-Efficacy Scale developed by Schwarzer, Schmitz, & Daytner (1999)

Indicate the degree to which each statement describes conditions in your school.

1. I am convinced that I am able to successfully teach all relevant subject content to even the most difficult students.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

2. I know that I can maintain a positive relationship with parents even when tensions arise.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

3. When I try really hard, I am able to reach even the most difficult students.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

4. I am convinced that, as time goes by, I will continue to become more and more capable of helping to address my students' needs.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

5. Even if I get disrupted while teaching, I am confident that I can maintain my composure and continue to teach well.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

6. I am confident in my ability to be responsive to my students' needs even if I am having a bad day.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

7. If I try hard enough, I know that I can exert a positive influence on both the personal and academic development of my students.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

8. I am convinced that I can develop creative ways to cope with system constraints (such as budget cuts and other administrative problems) and continue to teach well.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

9. I know that I can motivate my students to participate in innovative projects.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

10. I know that I can carry out innovative projects even when I am opposed by skeptical colleagues.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
◯	◯	◯	◯	◯

Appendix J

Frequency of Distribution of Scores

Table J1 shows the frequency distribution for support within DLI with individual responses ranging from 1.9 to 4.9.

Table J1: Frequency Distribution of Scores for Support within DLI

Score	Frequency	Percent
1.90	1	0.62%
2.00	1	0.62%
2.10	1	0.62%
2.20	3	1.85%
2.30	3	1.85%
2.40	1	0.62%
2.50	2	1.23%
2.60	3	1.85%
2.70	3	1.85%
2.80	3	1.85%
2.90	2	1.23%
3.00	3	1.85%
3.10	6	3.70%
3.20	7	4.32%
3.30	8	4.94%
3.40	9	5.56%
3.50	5	3.09%
3.60	6	3.70%
3.70	18	11.11%
3.80	15	9.26%
3.90	6	3.70%
4.00	14	8.64%
4.10	12	7.41%
4.20	5	3.09%
4.30	9	5.56%
4.40	6	3.70%
4.50	3	1.85%
4.60	1	0.62%
4.70	2	1.23%
4.80	3	1.85%
4.90	1	0.62%
Total	**162**	**100.00%**

Table J2 shows the frequency distribution for supervision within DLI with individual responses ranging from 1.00 to 5.00.

Table J2: Frequency Distribution of Scores for Supervision within DLI

Score	Frequency	Percent
1.00	1	0.62%
2.00	1	0.62%
2.67	4	2.47%
3.00	4	2.47%
3.33	13	8.02%
3.67	9	5.56%
4.00	82	50.62%
4.33	13	8.02%
4.67	8	4.94%
5.00	27	16.67%
Total	**162**	**100.00%**

Table J3 shows the frequency distribution for coherent leadership within DLI with individual responses ranging from 2.00 to 5.00.

Table J3: Frequency Distribution of Scores for Coherent Leadership within DLI

Score	Frequency	Percent
2.00	1	0.62%
2.10	2	1.23%
2.20	3	1.85%
2.30	4	2.47%
2.40	7	4.32%
2.50	2	1.23%
2.60	1	0.62%
2.70	2	1.23%
2.80	4	2.47%
2.90	3	1.85%
3.00	3	1.85%
3.10	5	3.09%
3.20	11	6.79%
3.30	8	4.94%
3.40	11	6.79%
3.50	6	3.70%
3.60	10	6.17%
3.70	10	6.17%
3.80	6	3.70%
3.90	5	3.09%
4.00	17	10.49%
4.10	5	3.09%
4.20	8	4.94%
4.30	7	4.32%
4.40	6	3.70%
4.50	3	1.85%
4.60	1	0.62%
4.70	4	2.47%
4.80	3	1.85%
4.90	1	0.62%
5.00	3	1.85%
Total	**162**	**100.00%**

Table J4 shows the frequency distribution for collaborative leadership within SCS with individual responses ranging from 1.36 to 4.73.

Table J4: Frequency Distribution of Scores for Collaborative Leadership within SCS

Score	Frequency	Percent
1.36	1	0.62%
1.55	1	0.62%
1.64	1	0.62%
1.82	1	0.62%
2.00	3	1.85%
2.09	1	0.62%
2.18	2	1.23%
2.27	2	1.23%
2.36	7	4.32%
2.45	2	1.23%
2.55	4	2.47%
2.64	2	1.23%
2.73	5	3.09%
2.82	5	3.09%
2.91	4	2.47%
3.00	5	3.09%
3.09	2	1.23%
3.18	7	4.32%
3.27	12	7.41%
3.36	5	3.09%
3.45	6	3.70%
3.55	10	6.17%
3.64	12	7.41%
3.73	7	4.32%
3.82	9	5.56%
3.91	3	1.85%
4.00	14	8.64%
4.09	6	3.70%
4.18	7	4.32%
4.27	5	3.09%
4.36	2	1.23%
4.45	4	2.47%
4.55	1	0.62%
4.64	1	0.62%
4.73	3	1.85%
Total	**162**	**100.00%**

Table J5 shows the frequency distribution for teacher collaboration within SCS with individual responses ranging from 1.00 to 4.67.

Table J5: Frequency Distribution of Scores for Teacher Collaboration within SCS

Score	Frequency	Percent
1.00	1	0.62%
1.17	1	0.62%
1.50	2	1.23%
1.67	2	1.23%
1.83	1	0.62%
2.00	3	1.85%
2.17	7	4.32%
2.33	5	3.09%
2.50	10	6.17%
2.67	10	6.17%
2.83	13	8.02%
3.00	19	11.73%
3.17	12	7.41%
3.33	19	11.73%
3.50	8	4.94%
3.67	14	8.64%
3.83	11	6.79%
4.00	12	7.41%
4.17	6	3.70%
4.33	4	2.47%
4.67	2	1.23%
Total	**162**	**100.00%**

Table J6 shows the frequency distribution for professional development within SCS with individual responses ranging from 1.36 to 4.73.

Table J6: Frequency Distribution of Scores for Professional Development within SCS

Score	Frequency	Percent
1.36	1	0.62%
1.55	1	0.62%
1.64	1	0.62%
1.82	1	0.62%
2.00	3	1.85%
2.09	1	0.62%
2.18	2	1.23%
2.27	2	1.23%
2.36	7	4.32%
2.45	2	1.23%
2.55	4	2.47%
2.64	2	1.23%
2.73	5	3.09%
2.82	5	3.09%
2.91	4	2.47%
3.00	5	3.09%
3.09	2	1.23%
3.18	7	4.32%
3.27	12	7.41%
3.36	5	3.09%
3.45	6	3.70%
3.55	10	6.17%
3.64	12	7.41%
3.73	7	4.32%
3.82	9	5.56%
3.91	3	1.85%
4.00	14	8.64%
4.09	5	3.09%
4.18	7	4.32%
4.27	5	3.09%
4.36	2	1.23%
4.45	4	2.47%
4.55	1	0.62%
4.60	1	0.62%
4.64	1	0.62%
4.73	3	1.85%
Total	**162**	**100.00%**

Table J7 shows the frequency distribution for unity of purpose within SCS with individual responses ranging from 1.60 to 5.00.

Table J7: Frequency Distribution of Scores for Unity of Purpose within SCS

Score	Frequency	Percent
1.60	1	0.62%
1.80	2	1.23%
2.00	2	1.23%
2.20	3	1.85%
2.40	4	2.47%
2.60	5	3.09%
2.80	6	3.70%
3.00	14	8.64%
3.20	12	7.41%
3.40	12	7.41%
3.60	12	7.41%
3.80	14	8.64%
4.00	42	25.93%
4.20	9	5.56%
4.40	8	4.94%
4.60	5	3.09%
4.80	6	3.70%
5.00	5	3.09%
Total	**162**	**100.00%**

Table J8 shows the frequency distribution for collegial support within SCS with individual responses ranging from 2.00 to 5.00.

Table J8: Frequency Distribution of Scores for Collegial Support within SCS

Score	Frequency	Percent
2.00	2	1.23%
2.25	2	1.23%
2.50	1	0.62%
2.75	2	1.23%
3.00	4	2.47%
3.25	11	6.79%
3.50	16	9.88%
3.75	18	11.11%
4.00	47	29.01%
4.25	26	16.05%
4.50	8	4.94%
4.75	12	7.41%
5.00	13	8.02%
Total	**162**	**100.00%**

Table J9 shows the frequency distribution for learning partnership within SCS with individual responses ranging from 1.25 to 4.75.

Table J9: Frequency Distribution of Scores for Learning Partnership within SCS

Score	Frequency	Percent
1.25	1	0.62%
1.50	5	3.09%
1.75	3	1.85%
2.00	7	4.32%
2.25	5	3.09%
2.50	12	7.41%
2.75	8	4.94%
3.00	18	11.11%
3.25	22	13.58%
3.50	20	12.35%
3.75	20	12.35%
4.00	32	19.75%
4.25	7	4.32%
4.50	1	0.62%
4.75	1	0.62%
Total	**162**	**100.00%**

Table J10 shows the frequency distribution for the TSES with individual responses ranging from 2.40 to 5.00.

Table J10: Frequency Distribution of Scores for TSES

Score	Frequency	Percent
2.40	1	0.62%
2.80	2	1.23%
2.90	2	1.23%
3.00	3	1.85%
3.10	3	1.85%
3.30	1	0.62%
3.40	4	2.47%
3.50	5	3.09%
3.60	3	1.85%
3.70	8	4.94%
3.80	12	7.41%
3.90	8	4.94%
4.00	26	16.05%
4.10	10	6.17%
4.20	13	8.02%
4.30	3	1.85%
4.40	10	6.17%
4.50	8	4.94%
4.60	9	5.56%
4.70	3	1.85%
4.80	12	7.41%
4.90	7	4.32%
5.00	9	5.56%
Total	**162**	**100.00%**